MMF&I THESIS

FINANCIAL DISINTERMEDIATION

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DECLARATION

I, Kelly Jade Wright declare that the research work reported in this dissertation is my own, except where otherwise indicated and acknowledged. It is submitted for the degree of Master of Management in Finance and Investment at the University of the Witwatersrand, Johannesburg. This thesis has not, either in whole or in part, been submitted for a degree or diploma to any other universities.

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ABSTRACT

This paper aims to make an empirical contribution to the discussion of the role of banks and to find out if banking is a declining industry. It takes into account that the role of banks is declining in the United States and the fact that the American economy usually sets the trend for the other economies. This implies that there are increasing trends of disintermediation, securitization and an increase in the importance of nonbank financial intermediaries (Schmidt, Hackethal and Tyrell 1997). This paper seeks to find out if this is indeed the case in the U.S and if so then is it happening in other European and African economies. Another important reason for this study is to find out what factors are causing the structures of financial systems to change and what impact these changes have on financial institution intermediation. Comparisons are made between developed countries in Europe and developing countries in Africa to observe the trends of intermediation/disintermediation.

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1. INTRODUCTION

1.1 Problem Statement

Disintermediation is the act of removing funds from savings banks or other financial institutions and placing them into short-term investments on which the interest-rate yields are higher (David L. Scott 2003). In a world of perfect financial markets it would not be necessary to have financial intermediaries when lending and borrowing money because transactions would be costless, securities could be purchased in any denomination and we could assume perfect information about the quality of the financial instruments we are trading (Ritter, Silber and Udell). However, in the real world there are many reasons for financial intermediation. There are transaction costs as you need to bring the lender and borrower together and this can be costly when the lender/borrower is an individual or small institution. The way to reduce these costs is to use financial intermediaries. Portfolio diversification is also an important reason for financial intermediation as when investments are spread over a large number of securities the risk you are exposed to, is greatly reduced. The option of portfolio diversification is not available to small investors with limited funds. Another advantage of using intermediation is that intermediaries have access to information about the market, they are effective in analysing credit risk and they are specialists in using this information in the right way. Buyers and sellers are not equally informed about each other. The reasons for this are that it is difficult to determine credit worthiness of small businesses and consumers, the borrower knows more than the lender about the borrower's future performance and borrowers may understate risk. Intermediaries endeavour to know all of this information which is referred to as asymmetric information mitigation.

There has been quite an evolution of financial intermediaries over the years as these institutions are very dynamic. The relative importance of the different types of institutions has changed, Pension Funds and Mutual Funds have become more important and depository institutions (except credit unions) and life insurance companies have become less important (Ritter, Silber and Udell). These changes are due to changes in regulations and new financial and technological innovations.

After conducting a study in the U.S, one gets an impression that the dominant role of banks in the financial market is declining. Since the state of the economy in the U.S is usually an indication of what will happen in other countries one can expect that due to the trend in disintermediation, the role of banks in other developed countries is on the decline too.

An empirical analysis has been done on whether there has been a transformation of the financial systems in three of the major European economies namely, France, Germany and the United Kingdom (Schmidt, Hackethal and Tyrell 1997). It was found that there was not a general trend towards disintermediation. There was also not a trend towards a transformation from bank-based capital to market-based financial systems or any real loss of importance of the banks to the markets. Although the results differed for all three countries, it was observed that in France there were some major signs of transformation and also a decline in the role of banks there. There was, however, a common pattern in the findings of the study: the intermediation chains in all three countries were lengthening. There was a trend towards securitization of bank liabilities and this change might cause the funding costs of banks to increase which may in turn put banks under pressure. In France this change is so obvious that it could affect the stability of the financial system.

Changes in economic behaviour and institutions can be called revolutions and one of these revolutions is the apparent trend toward disintermediation. In the U.S financial disintermediation is a growing trend and as the rest of the world's economies follow that of the U.S there might be a general trend towards disintermediation, securitization and an increase in the importance of nonbank financial intermediaries and financial markets (Schmidt, Hackethal and Tyrell 1997).

1.2 Purpose of Study

The purpose of this study is to investigate why revolutions in the banking and financial world cause problems that need to be addressed. Specifically it aims to find out if there is a trend toward disintermediation and securitization, in developed countries in Europe, as well as in emerging markets in Africa. It also aims to find out if the structures of financial systems are changing with the importance of banks declining.

1.3 Questions of Study

1. What financial revolutions are happening in the banking and financial industries in the developed countries and in the emerging markets of the world?
2. Is there a general trend toward disintermediation, with banks losing importance to the markets in developed countries namely the US, France, Germany and the UK and in developing countries such as South Africa, Nigeria, Botswana and Kenya?
3. Is there a pattern of structural change within the financial systems of these countries?

1.4 Significance of Study

This paper aims to make an empirical contribution to the discussion of the role of banks and to find out if banking is a declining industry. It takes into account that the role of banks is declining in the United States and the fact that the American economy usually sets the trends for the other economies. This implies that there are increasing trends of disintermediation, securitization and an increase in the importance of nonbank financial intermediaries (Schmidt, Hackethal and Tyrell 1997). This paper seeks to find out if this is indeed the case in the U.S and if so then is it happening in other European and African economies.

Another important reason for this study is to find out what factors are causing the structures of financial systems to change. Hopefully at the end of this paper some important conclusions will be drawn about disintermediation and the differing roles of banks in developed and developing countries the former being the U.S, France, Germany, the U.K and the latter, South Africa, Nigeria, Botswana and Kenya. The results of this study will benefit policy makers, banks and governments, as they will gain a greater understanding about disintermediation and the areas of their economies that this supposed growing trend will affect.

1.5 Background Literature

Financial systems play a vital role in modern economics as their chief function is to distribute limited capital to competing investment alternatives. They also observe the performance of firms in order to make sure that the capital is been used efficiently. Therefore a financial system that is not functioning like it should be has many consequences for the bigger economy. One of the main characteristics of the global financial system that has come to attention in recent decades is the trend towards disintermediation (Grahl and Teague 2005).

In an intermediated financial system strong banks stand between households, which are the main suppliers of financial resources, and the corporate, public sector or private agents that utilize these resources. It is therefore the bank that has a direct liability towards the savers who are its depositors. When banks are the main means for the mobilization of the savings of the public, company shares are not usually actively traded. The control of the companies tends to be mostly in the hands of a few 'inside' investors with a close relationship to the company management (Grahl and Teague 2005).

In a disintermediated system, the borrowers and the users of equity capital issue securities which are then held directly by the providers of funds. The providers of funds then assume all the risks involved with this transaction. Only very wealthy households purchase securities directly and therefore most securities are purchased through institutional investors, such as investment trusts or pension funds. This in turn allows such trusts and funds to aggregate small individual sums in order to carry out diversified purchases of securities on a large scale. This type of investment differs from that of traditional bank intermediation as the individual saver is exposed to all the risks of the security market but is also entitled to the gains which may come about as a result of the security prices rising (Grahl and Teague 2005).

Financial globalization has not only created increasingly complex interactions among existing financial systems but has also changed the structure of these systems. Conventional banking activities have been replaced to a great extent by governments and corporations financing their activities by the direct sale of securities to the investing public. It is this change in financial systems that is known as disintermediation, or when the role of direct financing such as securitization is emphasized.

There are a few factors that have caused a rise in disintermediation but the most significant cause has been the emergence of the global economy itself: an increase in interactions between economic agents on a global scale (Grahl and Teague 2005). The financial system in the U.S has led the way with this development because of its financial sophistication. To a certain extent financial globalization can be understood as the transformation and internationalization of the U.S financial system. In most other countries, with special attention to those in Europe, this transformation has been a little bit slower and traditional bank intermediation still prevails (Grahl and Teague 2005).

In the paper 'Disintermediation and the Role of Banks in Europe: an International Comparison' by Schmidt, Hackethal and Tyrell that this paper is based on there is an empirical analysis on three major European economies, Germany, France and the United Kingdom, in order to establish if there is indeed a trend toward disintermediation and structural changes within the financial systems of the countries in the study. This paper verifies that the French financial system has some significant signs of change whereas there is no definitive evidence that the systems within the United Kingdom and especially Germany, are changing.

Hopefully by the end of this paper an empirical contribution will be made towards the study of financial-system transformation and on the ways in which the role of banks are changing in Europe and in Africa.

1.6 Methodology

The measurement of intermediation and securitization ratios is based on the concept of the economy as a set of factors that interchange financial assets. I intend to search for data relating to this for the U.S and for each European and African country that I have proposed in this study. If, however, I am not able to obtain relevant data this study will be purely based on interpreting the results of other similar studies and gathering the collective results of as many academic papers as I can find relating to this topic. Due to the difficulty of finding data my study may also be limited in terms of the countries that it investigates. I think by researching and reading enough papers on disintermediation and the ever changing structures of financial systems I will be able to gather enough information to come to a comprehensive conclusion on this topic.

1.7 Outline of the Study

This paper will be structured in the following way. Section 2 will give the literature review of this study with special attention on recent financial revolutions in the world and the impact of these on intermediation. Section 3 takes a look at the data and methodology that will be used in this study in order to show if disintermediation is indeed a growing trend. Section 4 will present the results of this study and address the specific questions that were proposed for this study and finally Section 5 will draw conclusions about this study and the policy implications of disintermediation.

2. LITERATURE REVIEW

2.1 Theory of Financial Intermediation

This section introduces financial intermediation and explains why most lending/borrowing takes place through intermediaries and not by the borrowers going directly to the lenders. An explanation of the fundamental reasons why banks exist, and the advantages they have as intermediaries and also why their roles have seemed to decline in recent years, will be given. The literature in this section draws largely from Davis (2006).

Consider a company planning to invest in a new production facility but not having the necessary funds to do so. Then consider an individual with a surplus of funds not wanting them to just sit around, but wanting them to gain a return. It would seem logical for the company in need of capital to seek out the individual with funds so that they could borrow the funds from the individual and put them to good use. This is not, however, the case and it is here that financial intermediaries such as banks come into the picture. Bank loans are generally the most important source of external funding for firms although shares and bonds have also increasingly become more important sources of finance in recent years.

There are three main reasons why financial intermediaries exist:

1. Different requirements of lenders and borrowers
2. Transactions costs
3. Problems arising out of information asymmetries.

Firstly firms wanting to borrow funds to finance investment will usually want to repay the borrowing over the expected life of the investment. Also, these claims issued by firms will have a relatively high default risk reflecting the nature of the business investment. On the other hand, lenders will be looking to hold assets which are relatively liquid and low-risk. In order to resolve this problem of conflicting requirements of lenders and borrowers, a financial intermediary will hold the long term, high-risk claims of borrowers and finance this by issuing liabilities, called deposits, which are highly liquid and have low default risk.

Secondly due to transaction costs it is difficult for a lender to find an appropriate borrower. Transaction costs include search costs, verification costs, monitoring costs and enforcement costs. Both the lender and borrower will have to incur the costs of finding information about a suitable lender/borrower. The lender will then have to verify the information provided by the borrower and once a loan is created the lender must monitor the activities of the borrower, particularly to ensure that a payment date is not missed. Lastly the enforcement costs require the lender to ensure enforcement of the terms of the contract, or recovery of the debt in the event of default.

Lastly, asymmetric information refers to a situation where one party in the contract has more information than the other party. This problem arises in most types of transactions not just financial ones. A classic example is the sale/purchase of a second hand car. The seller has more information about the condition of the car than the buyer does and this makes the buyer reluctant to buy the car unless he can acquire more information from a mechanic. In the financial context the borrower will have more information about the potential returns and risks of the investment project for which the funds are to be used. The existence of asymmetric information creates problems for the lender, both before the loan is made, at the verification stage, and after, at the monitoring and enforcement stages.

The biggest problem that arises out of asymmetric information is moral hazard. This problem occurs after the loan is made and refers to the risk that the borrower might engage in activities that are undesirable or immoral from the lenders point of view - such as activities that make it less likely that the loan will be repaid. In particular, they may take more risks as; a person is more likely to behave differently when they are using borrowed funds compared to when they are using their own funds.

The question to ask at this point is how do banks overcome these problems? Financial intermediaries transform assets as they can hold the long-term, high-risk, claims issued by borrowers and finance this by issuing deposit claims with the characteristics of low-risk and short-term. Therefore a financial intermediary transforms the characteristics of the funds that pass through it by mismatching the maturity of the assets it holds with the maturity of the liabilities it issues. Not only does the bank transform the maturity and liquidity of the funds but it also transforms other characteristics such as default risk and the size or denominations of the contracts. The way the financial intermediary achieves this asset transformation is by managing the associated risks. The risks associated with maturity transformation are reduced by diversifying funding sources.

Intermediaries reduce transactions costs as they have developed expertise and because their large size enables them to take advantage of economies of scale. For example, fixed costs of asset evaluation mean that intermediaries have an advantage over individuals because they allow such costs to be shared. Similarly, trading costs mean that intermediaries can more easily be diversified than individuals (Gurley and Shaw, 1960). Lastly they also reduce the problems that arise from asymmetric information. They are able to reduce the adverse selection problem because they develop expertise in information production that enables them to select good credit risks. Banks have a particular advantage as they have access to information from customers transaction accounts held within the bank. Banks reduce the moral hazard problem by introducing restrictive covenants into their loan contracts[1].

We have just seen why banks exist and why they are good at what they do, but there is evidence that the traditional roles of banks are on the decline. This may be due to a significant reduction in transaction costs and asymmetric information in recent decades (Allen and Santomero, 1998). Over time, the importance of traditional banks that take deposits and make loans has being reduced. Other forms of financial intermediaries such as pension funds and mutual funds have grown significantly and there are also new financial markets such as financial futures and options (Allen and Santomero, 1998).

Allen and Santomero (1998) argue that many current theories of intermediation are too heavily focused on functions of institutions that are no longer essential in many developed financial systems. These theories focus on products and services that are no longer as important to intermediaries as they used to be and don't account for the new activities which have become the central focus of many institutions. The authors (Allen and Santomero) propose that too much emphasis is placed on the role of intermediaries as agents that reduce the frictions of transaction costs and asymmetric information, as these factors may once have been central but they have

[1] A restrictive covenant is a provision that restricts the borrowers' activities to be safe ones.

become increasingly less relevant. They believe that there are two new roles that intermediaries currently play, namely: facilitators of risk transfer and dealing with the increasingly complex maze of financial instruments and markets. They suggest that reducing participation costs, which are the costs of learning about effectively using markets as well as participating in them on a day to day basis, play an important role in understanding the changes that have taken place.

Banks have existed since the earliest times, with their function being taking deposits mainly from households and making loans to economic agents requiring capital. In contrast to this, financial markets and non banks have only become more important recently, and even then only in a few countries, mainly the US, Canada and the UK (Allen and Santomero, 1998). Financial systems in many countries have undergone a dramatic transformation in recent years. Transaction costs have fallen and information has become cheaper and more readily available. Financial markets such as the stock and bond markets have grown dramatically in size and there has been extensive financial innovation which accelerated in the 1970's and 1980's.

Therefore, there are many reasons why the role of banks might be declining and that there may be a trend towards disintermediation. Some of the key factors that could be causing this are globalization, economic growth, regulations and policy implications, the changing structure of financial systems, technology, securitization and derivatives. These factors are discussed below.

2.2 Globalization and Economic Growth

A well-functioning financial market is essential for sustaining economic growth both by supporting activity in the short-term and by allocating resources to investment for the longer term (de Serres et al., 2006). The relationship between finance and economic growth is an important one that has received a substantial amount of attention in economic development literature during recent decades. Financial institutions play an important role in a country's economic development (Atindéhou et al., 2005). Schumpter also made the observation many decades ago that financial markets play a significant role in the growth of the real economy as they channel funds from savers to borrowers in an efficient way in order to facilitate investment in physical capital and spur innovation and its attendant creative destruction process. King and Levine (1993a) found evidence to support the view that the level of financial development is a predictor of future economic development and future productivity improvements. The effectiveness of economic policy is also positively associated with how well financial markets work and most studies come to the conclusion that the financial development of a country enhances efficiency in the allocation of resources, thus stimulating the growth process. In economies with unsophisticated financial systems, there are fewer investment opportunities, implying a higher probability that resources are wasted on unproductive uses (Demergüç-Kunt and Maksimovic, 1996; Greenwood and Jovanovic, 1990).

Patrick (1966) characterized the relationship between finance and economic growth in terms of two main hypotheses: the 'supply-leading' hypothesis and the 'demand-following' hypothesis. The 'supply-leading' hypothesis states that financial institutions are created and the supply of their assets, liabilities and related financial services, in advance of demand for them, especially the demand of entrepreneurs in the modern, growth-inducing sectors. 'Supply leading' has two main purposes: It transfers resources from traditional (non-growth) sectors to modern sectors and it promotes and stimulates an entrepreneurial response in these modern sectors. In the 'demand-following' environment, economic growth leads to the demand for financial services. Due to this there is a creation of modern financial institutions, their assets and liabilities, and related services in response to the demand for these by investors and savers in the real economy (Atindéhou et al., 2005). The question then is whether the financial sector drives economic development or whether it is economic growth that drives the formation of new financial institutions. Both answers are supported by many theoretical arguments.

Financial institutions play an intermediary role and provide services such as savings collection, risk management and management control (Atindéhou et al., 2005). Banks increase the productivity of an investment by directing funds towards less liquid, but more profitable, technologies. This increase in productivity causes rapid economic growth. In addition to this, a developed and close-to-enterprise banking system reduces information asymmetry between firms and banks, and this allows better investment choices and encourages economic growth (Bencivenga and Smith, 1991). Financial markets also increase economic growth, by facilitating transactions on firm's stocks and by allowing economic agents to diversify their portfolios (Levine, 1991). A high financial growth rate is positively related to real economic growth. There is, however, also evidence that finance may have a negative effect on economic growth when constraints exerted by government on the banking system may slow financial system development and thus economic growth too (McKinnon, 1973, Shaw, 1973 and Levine, 1993b). These specific constraints will be discussed in the following sub-section.

The impact of economic growth on finance has a bit less support in the literature. Therefore the question is still a concern and one that needs further research. Robinson (1952) argues that economic development favours an increase in the demand for financial services, which leads to development of the financial sector. Greenwood and Jovanovic (1990) have a basic hypothesis which states that access to financial institutions is expensive and therefore economic units cannot access services offered by financial intermediaries without incurring high fixed costs. They then go on to argue that due to the fact that economic growth reduces the importance of these fixed costs, one would expect the size of financial intermediaries' customers to increase, which would result in an increased volume in the intermediaries' activities. This means that economic growth drives the development of financial intermediaries and therefore also overall financial development.

A stable macroeconomic environment provides the backdrop against which sound financial intermediation can take place in both the formal and informal sectors (Rau, 2004). Research shows that reckless monetary and fiscal policies lead to run-away inflation that in turn causes high nominal interest rates. High rates fail to bring about positive rates of return for investors. They do however bring about exchange rate deterioration that reinforces high inflation and this continues in a vicious circle. Inflation is effectively a tax on investment and is detrimental to long-run economic growth (Rau, 2004). It is a constraint on growth because it increases uncertainty about the macroeconomic environment, which disrupts investment and saving decisions. Fisher (1993, 1991) even suggests that high inflation is evidence of ineffectual macroeconomic policy. Inflation also has a negative effect on financial markets.

Recently, studies have expanded the work by McKinnon (1973) and Shaw (1973), who emphasized the importance of price stability as a necessary condition for financial intermediaries to evolve in the development process. Inflation disturbs financial intermediation as it discourages long-term contracting by emphasizing informational problems and by increasing moral hazard problems in the banking sector (McKinnon, 1991). High uncertainty therefore makes the financial system less efficient in allocating resources and more fragile. Due to this uncertainty, high inflation upsets the maturity transformation role of the financial system and therefore limits long-term investment and the growth process (Allen and Ndikumana, 1998).

An important problem in African countries such as Botswana, Nigeria and Kenya related to macroeconomic stability is indebtedness. Debt is a serious macro constraint for these developing countries. Funds also do not readily flow in from foreign countries because of the inconvertibility of most African currencies. Due to this problem, foreign investors have no interest in getting involved in the micro-finance activities of these countries since repatriation of returns is difficult (Rau, 2004).

Being country specific, the economic performance of Nigeria has deteriorated since 1997. This is due to the growth rate of GDP which has been decreasing since that year (Atindéhou et al., 2005). Nigeria has, however, had a high average growth rate but it has also experienced a high variability in its growth rate. One important aspect that the study done by Atindéhou et al. (2005) noted is that the credits granted to the economy of Nigeria by financial institutions (particularly banks) did not reach the goal of driving economic growth. This could be due to their volume, management and also their orientation towards key sectors of the economy of these countries. Importantly one must note that credit measurement does not account for the informal financing in these countries which will be discussed in a later sub-section. Also due to the sub-optimal role that credit institutions play in these countries it becomes more evident that the national or regional stock exchanges can play a complementary role in the financing of economic growth.

Botswana and South Africa have experienced steady growth and are now converging to high income levels. These two countries have also showed strong signs of development of their financial systems supported by fast growing capital markets (Allen and Ndikumana, 1998). A recent International Monetary Fund (IMF) Occasional Paper, Mehran, et al. (1998), rank the financial sectors of Botswana and South Africa consistently in the upper and middle levels of development, with South Africa being responsible for the Finance and Investment Sector of Southern African Development Community (SADC). Allen and Ndikumana (1998) found that there is a positive correlation between financial development and growth of real per capita GDP in South Africa and Botswana and liquid liabilities of financial institutions as a measure of size, have indicated that there is a positive and significant relationship between economic growth and the size of the financial system.

The banks of a country also differ dramatically in size relative to the size of the economy of the country. In the US the relatively small size of banking reflects the development of other forms of intermediation, but in other countries it simply shows the underdevelopment of the financial sector. Bank concentration also differs substantially across countries because in small economies the five largest banks account for almost all of the deposits made while in larger economies they control far less of the market for deposits (Barth et al., 2001).

2.3 Regulations and Policy Implications

Sound regulation and supervision are important in making sure that financial market institutions, specifically banks, function well and that financial stability is sustained (Davis, 2009). Banking regulations are needed because of the existence of asymmetric information between lenders and borrowers. The uncertainty about the returns to projects for loans that have been advanced can lead to instability in the financial system, which once in motion cannot easily be stopped by private markets alone. In addition, information asymmetries between regulatory authorities and lenders create moral hazard for institutions that are "too big to fail" given the impact they have on the wider economy. Regulation is a way of addressing these problems. There are three central objectives of regulation and supervision (OECD, 2007):

- Prevention of systemic risk: maintaining the stability of, and confidence in, the financial system.
- Consumer/investor protection: protecting investors and borrowers from excessive risk of loss or financial harm arising from failure, fraud, manipulation or other forms of misconduct.
- Conduct of business: ensuring effective, efficient and reliable functioning of financial markets with the proper working of competitive forces.

One of the underlying reasons that banking regulation is needed is due to the mismatch between short-term funding of banks and the long-term nature of banks' loans such as retail mortgages. The mismatching of this maturity makes banks fragile as they normally operate with low levels of liquid assets (cash, short-term government bonds) to invest in higher yielding illiquid assets, while providing "liquidity insurance" to depositors (Diamond and Dybvig, 1983).

The regulation of banks is aimed at achieving stability, of both individual institutions and the system as a whole. Capital adequacy standards influence the overall amount of risk that is taken through the amount of capital held to cover unexpected losses, as well as giving equity holders an incentive to monitor the amount of risk-taking by the banks. Restrictions on liquidity and funding practices aim to ensure that institutions have sufficient liquid assets on hand to meet short-term liabilities (Davis, 2009).

Regulation has generally been blamed for contributing to the decline of the commercial banking industry in the US. There is a common perception that the size of the commercial banking industry has been on the decline, in recent years, relative to that of all other financial institutions in the US. Restrictive regulations which were imposed primarily in earlier years when banking was relatively more important are often blamed for contributing to this decline (Kaufman and Mote, 1994). Banks are also now facing competition from less regulated firms or segments of the financial services industry (Lynn Reaser, 2006).

The regulatory approach developed by the UK authorities has been well regarded (IMF, 2003) and many countries have followed the model of a single supervisor for all financial firms (Davis, 2009). Restrictions on the banking system in the UK were eased considerably during the 1970's and quantitative controls almost completely disappeared with the abolition of the "corset" arrangement on bank balance-sheet growth in 1980. UK banks entered into the investment banking industry after the 1986 "Big Bang" deregulation of the equity markets. The modern model of banking, applicable to the large domestic UK banks, relies more on funds from wholesale money and bond markets than small banks (Davis, 2009). The financial system of the UK is an integral part of the EU single-market in financial services.

European single-market legislation provides much of the basic framework for regulation and often follows international agreements (OECD, 2009). Individual countries in the Eurozone, specifically France and Germany for this study, have their own say on how this framework is transposed into their own national requirements. Bank supervision remains a national responsibility and the national authorities of the specific country have the primary responsibility in most areas for institutions within their jurisdiction. They do however have much less control over the activities of branches of banks based in other EU countries, which may enter the domestic market using the EU banking passport system.

The UK has relied on three institutions for their financial stability. Firstly the Financial Services Authority (FSA) is responsible for financial and banking regulation. Next, the Bank of England contributes to the stability of the system through monetary policy. Lastly the Treasury is responsible for the overall architecture of the system and aspects affecting public finances. Cooperation has intensified between these institutions since the recent financial crisis as they have all been required to work together when dealing with failing banks, the recapitalization of the banking system and other measures to support the supply of credit (Davis, 2009).

South Africa has a fairly well regulated and sophisticated financial sector that is among the most advanced sectors in the world in terms of its depth, structure and liquidity, which encompasses the banking, insurance and security industries. It includes financial service providers such as intermediaries and facilitators such as stockbrokers, securities underwriters and investment bankers (Daniels, 2004). Each of these industries is regulated by an independent regulatory authority – The Registrar of Banks in the case of the banking institutions (comprised of the Bank Supervision Department of the South African Reserve Bank), and the Financial Services Board in the case of the insurance industry and the securities market, although the Johannesburg Stock Exchange is the de facto daily regulator of the latter (Hawkins, 2002). Hawkins also notes that:

> Since the opening of the economy associated with the democratic elections in 1994, the sector has experienced the promulgation of regulatory legislation in each of the industries, which has improved the level of compliance with the relevant international standards body. In the case of the banking industry, this is the Bank for International Settlements (BIS) in Basle. In the insurance industry, the international Association of Insurance Supervisors (IAIS) sets the core principles, and for the securities industry the International Organisation of Securities Commissions (IOSCO) sets the standards. The recent changes in legislation have resulted in a financial sector that largely meets existing requirements of each of these regulatory authorities.

There are political factors that need to be taken into account when it comes to successful intermediation in African countries like South Africa, Nigeria, Botswana and Kenya. Firstly state-owned financial institutions are generally inefficient and lead to the blurring of boundaries between the political-cum-economic activities of the state and the economic activities of the financial institution. Secondly corrupt governments force state-owned as well as private financial institutions to extend credit to particular favoured individuals and institutions on grounds other than economic. Lastly the general conditions of political instability lead to economic instability, which in turn leads to financial instability. Financial instability then leads to reduced capital flows into a country and reduced financial intermediation through a loss of confidence in rights enforcement (Rau, 2004). In many African countries, central bank leadership is politically determined and the institution itself may lack autonomy. The outcome is unfortunate as the central banks' ability to supervise the financial system coherently is compromised (Rau, 2004). There is also the case of over-regulation by preventing foreign players in local markets.

Countries in Africa namely Botswana, Nigeria and Kenya do not always have the best credit and saving policies for the stimulation of financial intermediation. More often than not the credit policies in place are warped rather than supportive of intermediation since credit is directed on political rather than economic grounds. Investment and trade policies are also largely fragmented and therefore not supportive of entrepreneurship, which, in turn, does not stimulate intermediation (Rau, 2004). New evidence suggests that the banking sector development as well as the stock market development have a fundamental impact on economic growth. Banking is more deeply entrenched in the economies of Botswana, Nigeria and Kenya than the securities markets and other non-bank sectors but still, distinct challenges face policymakers in trying to ensure that both banks and markets reach their full functional potential.

The Nigerian authorities introduced an array of direct controls in the banking system in the 1970's. These were implemented through ownership as well as through interest rate and credit controls. Many foreign owned banks were nationalized, as no Nigerian purchaser could be found and this was part of an "indigenization wave" that had the goal of securing domestic majority ownership of strategically important sectors. These shares were formally warehoused for future sale while effectively they were used for political influence in these banks. During this time entry into the banking system was restricted as a floor for deposits and a ceiling for lending interest rates were established as well as a credit allocation quota of up to 70% of a bank's portfolio (Beck et al., 2005). In 1986 Nigeria undertook a broad program of financial liberalization. Both interest rates and entry into the banking system were liberalized and credit allocation quotas were loosened. The government also maintained a multiple exchange rate regime and this allowed quick entry of many new players into the banking system (Beck et al., 2005). These were mainly merchant banks that specialized in foreign exchange operations. In the years following this, the number of banks tripled from 40 to nearly 120, employment in the financial sector doubled and the contribution of the financial system to GDP almost tripled (Lewis and Stein, 2002).

This financial sector boom was accompanied by financial disintermediation. Relative to GDP, deposits in financial institutions as well as credit to the private sector decreased over the period 1986 to 1992. The increasing number of banks and human capital in the financial sector was thus directed into arbitrage and rent-seeking activity rather than financial intermediation (Beck et al., 2005). The bubble started to burst by 1990. Increasing signs of distress were shown by the merchant bank sector as well as government owned banks. Many banks were scrutinized and had their licenses taken away. In mid 1993, political uncertainty following a failed transition to civilian rule caused a bank run, which resulted in paralysis of the financial system, temporary closures and bank failures (Beck et al., 2005). Finally, in 1994, the new military government reintroduced exchange and interest rate controls. Following this was an inflationary burst, rising black market premium on the Naira and an economic decline which resulted in windfall gains for some connected market participants, while deepening the overall distress in the financial system (Beck et al., 2005).

The decade 1995 to 2005 was particularly distressing for the Nigerian banking industry, with the magnitude of it reaching an unprecedented level and therefore making it an issue of concern to the regulatory institutions, policy analysts and general public. The need for a major revamp was obvious (Elumilade, 2010). In light of the overhauling of the financial system, the Central Bank of Nigeria introduced a drastic reform program that changed the banking landscape of the country in 2004. Many Nigerian banks had a very low financial base and they were therefore encouraged to merge. Before the reform there were 89 banks in operation and afterwards more than 80 percent of them merged into 25 banks. The other 14 that did not finalize their consolidation before the expiration of the deadline were liquidated (Elumilade, 2010). Looking at the 25 new banks that emerged as a result of the consolidation, it can be seen that most of the banks that were regarded as distressed and unsound regrouped under new names or fused into existing perceived strong banks. This was not necessarily to correct the inefficiency in their operating system but just to meet the mandatory requirements to remain afloat and to continue business as usual (Elumilade, 2010). It is still an unanswered question as to whether these mergers and acquisitions increase the market power of the banks and create a monopoly which in turn will increase bank interest rates and reduce output (financial intermediation).

One thing that can be seen however, are the positive performance effects of privatization of Nigerian banks, even in an economy with weak institutions and a macroeconomic and regulatory environment that was hostile to financial intermediation. Government owned banks performed significantly worse in terms of profitability and loan portfolio quality than privately owned banks and privatization helped to close this gap (Beck et al., 2005). There are however boundaries of privatization as Beck et al. (2005) did not find any performance improvement beyond other private banks in the Nigerian banking system.

The following paragraph summarizes the financial liberalisation in Kenya from Pill and Pradhan (1997):

> Domestic financial liberalisation in Kenya is a fairly recent event. Ceilings on bank interest rates were not removed until July 1991. The central bank continued to announce guidelines for the sectoral composition of bank credit expansion, although these were not strictly enforced after interest rate liberalisation. International financial liberalisation is even more recent. Offshore borrowing by domestic residents has been permitted only since 1994 and portfolio capital inflows from abroad were restricted until January 1995. Supporting structural and institutional reforms have yet to be fully implemented. Many banks remain publicly owned and competition among them is limited.

2.4 Changes in the Structure and Functions of Financial Systems

There is an "extreme" view that financial markets allow efficient allocation of resources and intermediaries have no role to play, but this is clearly the opposite of what is observed in practice. Historically, banks and insurance companies have played a central role and this appears to be true in most economies except in emerging economies which are still at the early stages (Allen and Santomero, 1998). Even in these emerging economies the development of intermediaries tends to lead the development of financial markets themselves (McKinnon, 1973). Banks have existed since ancient times, accepting deposits from households and making loans to economic agents that require capital. In contrast, financial markets have only become important recently, and even then only in a few countries, mainly the UK and US. However, in the UK and the US, banks and insurance companies have played a major role in the transformation of savings from the household sector into investments in real assets. The literature in this section draws primarily from Allen and Santomero (1998)

Financial systems in many countries have undergone a radical transformation in recent years. Financial markets such as the stock and bond markets have grown significantly in size. There has also been widespread financial innovation and this includes the introduction of new financial products, such as various mortgage backed securities and other securitized assets, as well as derivative instruments such as swaps and complex options. All of these financial instruments have grown dramatically in volume. There are also new exchanges for financial futures, options and other derivative securities that have appeared and become major markets. The interesting thing about this increase in the breadth and depth of financial markets is that it has been as a result of increased use of these instruments by financial intermediaries themselves and non-financial firms. These instruments have not been used to any extent by households. In fact, the opposite has happened. The increased size of the financial markets has coincided with a major shift away from direct participation by individuals in financial markets towards participation through various kinds of intermediaries.

The importance of different types of intermediaries over this time period has also changed quite significantly. Bank and insurance companies' share of assets has fallen, while mutual funds and pension funds assets have dramatically increased in size. New types of intermediaries like nonbank financial firms have emerged, which raise money entirely by issuing securities and not at all by taking deposits. The outcome is that traditional intermediaries have declined in importance even as the sector itself has been expanding. In response to this, when we have a look at the activities of traditional institutions such as banks and insurance companies, we find that they too have changed. Banks that used to take deposits and make loans found that the possibilities for securitizing loans meant that they did not need to keep all the loans they could originate on their balance sheet. During the same time, insurance firms realized that their actual function was only a minor part of their asset management potential and these firms also innovated and widened their range of products and services.

Financial markets for equity and debt are increasingly being taken over by intermediaries such as mutual and pension funds. The transactions volume in these markets and those trading more complicated financial claims have become dominated by these same intermediaries, as well as the participants representing the standard institutions, i.e., commercial and investment banks and insurance companies. It can be observed that the operations of most large banks and insurance companies have changed drastically over time, with trading activity occupying the bulk of their endeavours.

The largest and most important change in intermediaries' activities that has occurred in the last thirty years is the growth in the relevance of risk management activities undertaken by financial intermediaries. The change in the breadth of the markets that are available for hedging risk has not inspired many individual or corporate customers to manage their own risk. It has however, ultimately meant that risk management has now become a central activity of many intermediaries.

There is not sufficient literature as to why risk management should play such a focal role in the activities of intermediaries, or why they should be the ones offering these services and what value they bring to the original activities of intermediaries. An important point is, however, made by Merton (1989) and Merton and Bodie (1995). Their contribution to literature suggests that financial systems should be studied in terms of a "functional perspective" instead of an "institutional perspective". A functional perspective is one based on the services the financial system provides, such as enabling a transfer of economic resources through time. In contrast, the central focus of an institutional perspective is on the activities of existing institutions such as banks and insurance companies. The authors argue that it is favourable to focus on the functional rather than the institutional perspective as over long periods of time functions have been a lot more stable than institutions. Institutions have come and gone, evolved and changed, but functional needs persist while packaged differently and delivered in significantly different ways.

Barth et al. (2001) made some interesting observations when studying the role of banks in countries of different income levels. They found there was a clear trend for the restrictiveness of bank activities to decline as one moves from the lower income countries to the higher income countries. They also found that countries of all income levels on average place fewer restrictions on non-financial firms owning banks than vice versa. More generally, the least restricted activity or cross-ownership arrangement is the ownership of banks by non-financial firms among lower income countries. They observed that developing countries place more limitations on foreign bank ownership of domestic banks and foreign bank entry through branching than developed countries.

Germany and the US are two countries that emphasize the differences in banking industries and in ways of regulating banks. Total bank assets as a percentage of GDP are 313 percent in Germany, but only 66 percent in the US. These figures explain why Germany is said to have a bank-based financial system, while the US is described as having a capital market-based system. However, at the same time the number of banks per 100,000 people is about the same in the two countries. The percentage of government owned banks in Germany is about 42 percent and at the other end of the spectrum are the UK and the US for which the government ownership figures are zero percent. Germany and the US also have low figures of 4.5 and 5 percent respectively, of total commercial bank assets accounted for by foreign-owned banks. Banks also differ dramatically in their size relative to the economy. In a country like the US the relatively small size of banking reflects the development of other forms of intermediation, but in many other countries it simply indicates the underdevelopment of the financial sector. Bank concentration also differs drastically as in small economies (an example being South Africa), the 5 largest banks account for almost all the deposits, while in larger economies they control far less of the market for deposits (Barth et al., 2001).

Allen and Santomero (2001) discuss the fact that the US financial system has been altered over the years in a very complex way. Firstly, relative to nonbank intermediaries, the share of assets held by banks is declining. Bank assets are not, however declining relative to total financial assets. They also noticed a shift away from directly held assets towards non-bank intermediaries. Lastly, they observed that the activities that banks engage in have altered significantly. Banks in the US have moved away from the traditional role of taking deposits and making loans to firms and consumers, to fee-producing activities such as trusts, annuities, mutual funds, mortgage banking, insurance brokerage and transactions services.

The financial systems in Nigeria, Kenya and Botswana are dual systems, consisting of a formal financial system and an informal financial sector. The formal financial sector is comprised of the Central Bank, the banking sector and non-banking financial institutions. The banking sector in these countries consists of commercial, development, corporative and savings banks and the other financial institutions include government statutory agencies, finance companies, leasing companies and insurance companies. The banking sector is dominated by commercial banks as they hold the largest share of the systems' total assets (Atindéhou et al., 2005).

Informal finance is an important characteristic in African financial systems. It is defined by Chandarvakar (1998) as the "totality of legal financial activities and transactions which are not, however, recorded and regulated and which fall outside the sphere of the official financial institutions". Since these informal activities are not recorded in official accounts, there are no reliable statistics on their scope in countries' financial systems. They do, however, provide financial services such as savings, money lending and money keeping to many classes of agents that formal financial institutions find unattractive: households, small firms and micro and rural enterprises (Atindéhou et al., 2005).

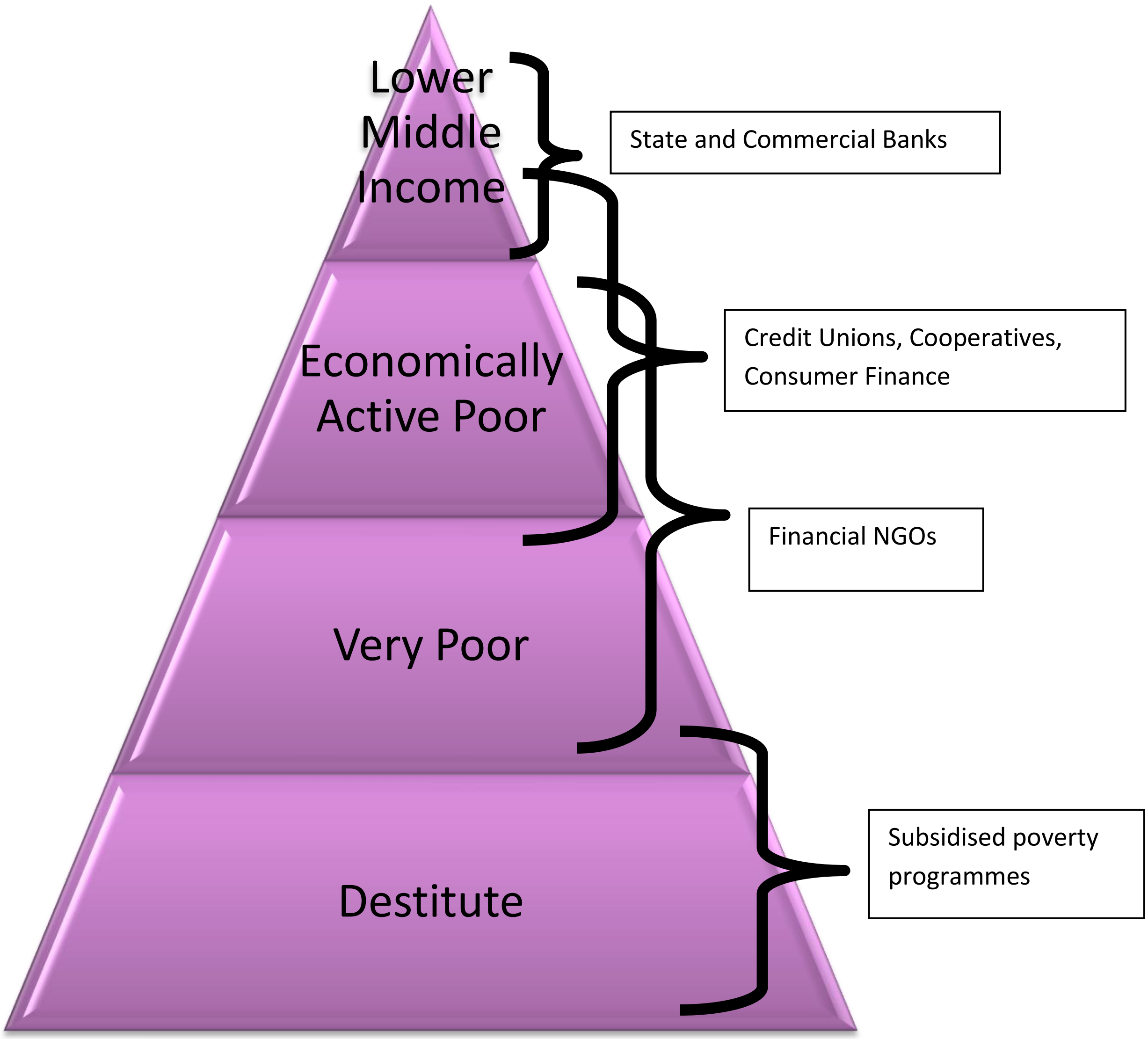
The diverse needs of poor people in Africa require a variety of savings and credit products to meet these needs. These products need to address short, medium and long term needs through disciplined, small regular savings, small irregular savings or irregular larger lump sum savings. Poor people generally want a mix of highly liquid, semi-liquid and illiquid savings products. Figure 1 on the next page summarises the nature of financial intermediation in terms of service providers and the client base served.

Lower, middle-income and wealthier consumers are typically served by the mainstream formal financial sector. Economically active, but poor consumers are often not targeted by the formal financial sector and often find mainstream financial services to be unaffordable and unresponsive. The poor therefore depend on the services provided by credit unions, community-financing initiatives, financial services co-operatives and financial NGO's (Rau, 2004).

The banking industry has experienced an unprecedented level of consolidation as mergers and acquisitions among financial institutions have become a general phenomenon globally. Consolidation in banking has been encouraged partly as a way to mobilize resources in a declining industry. In the US, between 1993 and 1996, nearly 1500 mergers were recorded (Piloff, 1996) and a similar experience was observed in Europe too (Schenk, 2000).

Evidence from African countries suggests that there is a growing need for a diversity of services, rather than "credit only" programmes, which is preferable in addressing the needs of the poor. Financial institutions help clients by facilitating payments and transfers, managing liquidity, taking deposits and providing mechanisms for savings, credit, equity building, and dealing with risk (Rau, 2004). Each one of these services can help the poor to enable themselves and the incorporation of these services clearly will alter the nature of banks' intermediation.

Figure 1: A Summary of Financial Intermediation Levels



Source: Littlefield, 2002

2.5 Technology

The financial sector has always been an early adopter of innovations in information and communications technology. Internationalization of finance has been one consequence and it has helped lower the cost of equity and loan capital on average, even though it has also heightened vulnerability to capital flows (Rau, 2004). The technological revolution has also significantly reduced the cost of information and reduced information asymmetry (Allen and Santomero, 1998). Technology has not, however, reduced the need for intermediation services or encouraged direct lending by households. Research and data actually suggests the opposite. The decline in frictions which were allegedly the market imperfections that led to a need for intermediation services has not reduced the demand for them (Allen and Santomero, 1998).

There is a common view that banks are losing out to a wide range of nonbank competitors such as finance companies, mutual funds, and private pension funds that are offering traditional types of banking products more efficiently. This is could be due to either technological advances eliminating advantages previously enjoyed by banks or the fact that these competitors are free of costly regulations imposed on banks (Kaufman and Mote, 1994).

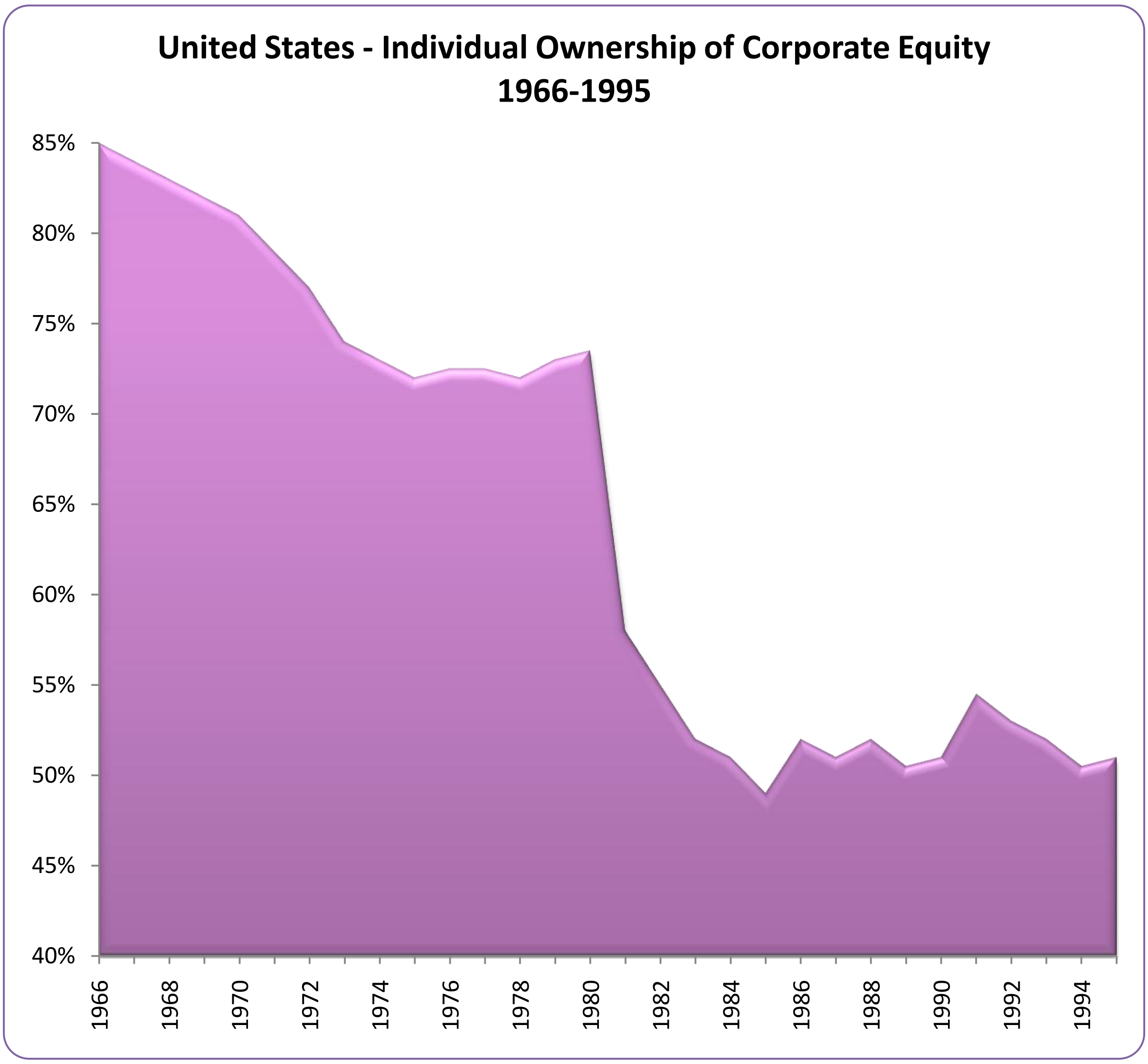
Botswana, Nigeria and Kenya are still a significant way behind international norms when it comes to the relevant infrastructure that will facilitate delivery to rural populations. South Africa, however, has started making use of technological advances in financial services, such as smart cards but like other African countries have made no dent in the rural population space (Rau, 2004).

2.6 Securitization, Derivatives and Other Financial Instruments

Markets for traditional instruments have grown rapidly in recent years. This is not only in absolute terms but also in relative terms. The literature in this section is for the most part derived from Allen and Santomero (1998). There has been a distinct long-term increase of market capitalization of corporate equity as a percentage of GDP in the US. However, one of the most significant features of markets for traditional instruments in the past few decades is the fact that there has been a drop in use by individuals. The ownership of corporate equity by individuals in the US has fallen from about 85% in the mid -1960's to around 50% in recent years (see Figure 2). Figure 3 indicates how the share of mutual and closed end funds, pension funds and insurance companies has correspondingly changed. Financial claims held directly by households have fallen quite drastically and intermediation has become more important as the chief source of new financial resources flowing into the capital markets over the past few decades. As can be seen in Figure 4 the ratio of mutual fund holdings to households' equity ownership has risen from about 5% in 1980 to around 25% by 1995.

In virtually all countries government securities have been the most important type of instrument traded in financial markets. Banks and insurance companies, in the nineteenth and early twentieth century, played the central role in transforming savings by households into investments in real assets by firms. Banks would receive deposits from households and make loans to firms and insurance companies would issue policies and lend the proceeds to firms or invest in securities markets. In UK and US markets for securities issued by firms were significant in terms of the assets outstanding but in most other countries this was not the case until the post-war era. Individuals rather than intermediaries were the predominant participants in the equity and bond markets of the US and UK. In addition to the equity and bond markets in the US there are also the exchanges in Chicago where commodity futures were traded starting in the mid-nineteenth century.

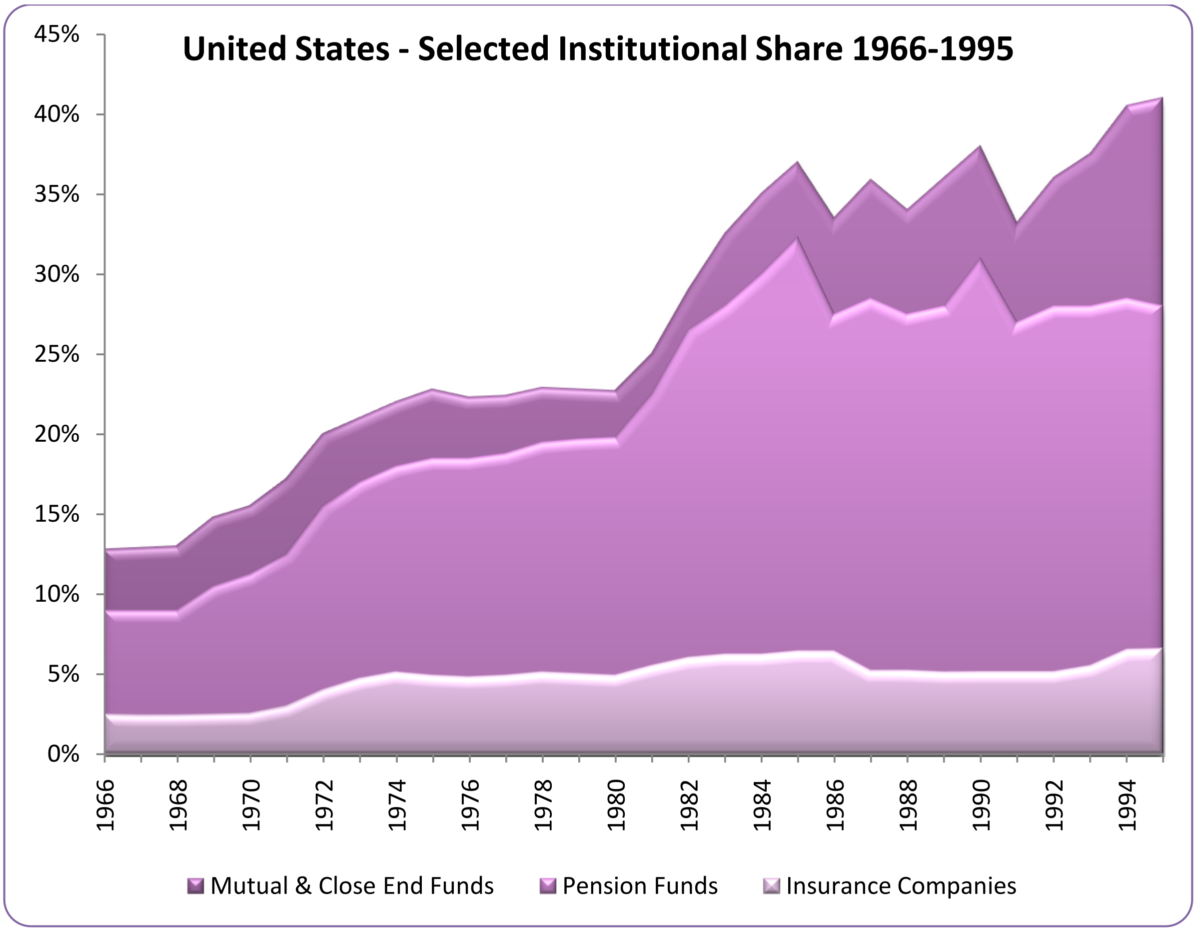
Figure 2: United States – Individual Ownership of Corporate Equity (1966-1995)



Source: Board of Governors of the Federal Reserve System – Flow of Funds Accounts

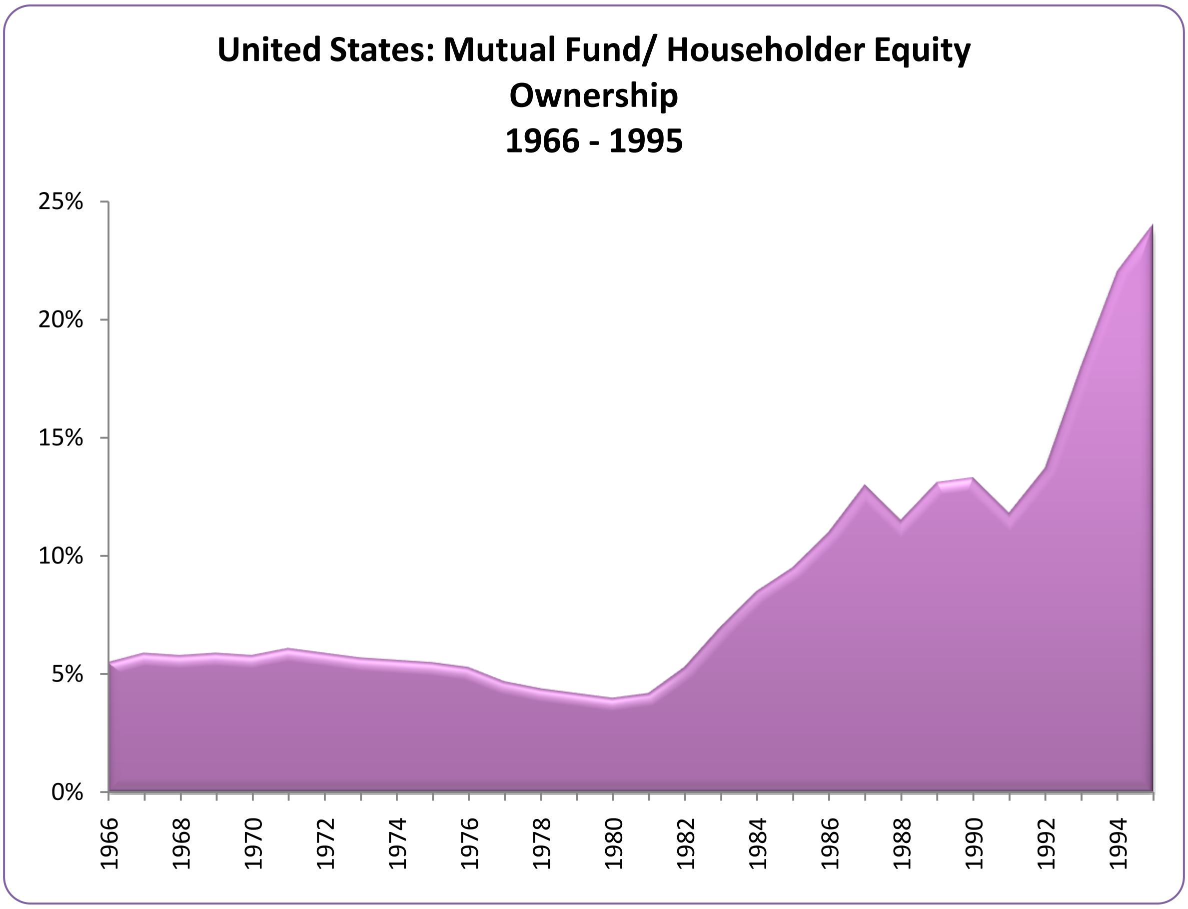
The markets themselves have also changed significantly especially in the 1970's and 1980's. Table 1 summarizes the traditional financial instruments and Table 2 reviews some of the new and most important financial innovations that have occurred. The most successful type of innovation has probably been the development of an assorted kind of derivatives securities. These new derivatives include financial futures and options listed on exchanges and new over-the-counter (OTC) instruments such as swaps.

Figure 3: United States – Selected Institutional Share (1966-1995)



Source: Board of Governors of the Federal Reserve System – Flow of Funds Accounts

Figure 4: United States - Mutual Fund/Householder Equity Ownership (1966 -1995)



Source: Board of Governors of the Federal Reserve System – Flow of Funds Accounts

Table 1: Traditional Financial Instruments

Issuer	Instrument	Characteristics
Governments	Bonds	A long-term debt obligation by the firm to make a series of fixed payments
	Notes	An intermediate obligation
	Bills	A short-term obligation
Banks	Deposits	Funds deposited at a bank available on demand or with some delay
	Acceptances	A written promise to pay a given sum at a prescribed date
Firms	Equity	Equity-holders are the owners of the firm and are responsible for conducting its affairs
	Bonds	A long-term obligation by the firm
	Convertibles	A bond that can be swapped for equity at a pre-specified ratio or vice versa
	Preferred stock	A hybrid security that combines features of debt and equity
	Commercial paper	A short-term debt security issued by firms that can be easily traded
	Warrants	A long-term call option on a firm's stock issued by the firm
Exchanges	Commodity futures	Contracts for future delivery of a commodity

Source: Allen, F and Santomero, A.M , 1998

Table 2: Recent Financial Innovations

Main Issuer	Instrument	Characteristics
Exchanges	Financial futures	Contracts for the future delivery of currencies, securities, or an amount of money based on an index
	Options	The right to buy or sell a security on or before a specified date
Banks	Swaps	Transactions in which different streams of income are exchanged
Governments	Securitized loans	Pools of mortgages or other types of loans that are publicly traded
Firms	Floating-rate debt	The interest rate on the debt is based on LIBOR, the T-bill rate or some other index
	Floating-rate preferred	A substitute for money market funds that captures the dividends-received deduction for firms
	Primes and scores	Equity is split into a prime component that has dividends and capital gains up to a stated price and score component that has capital gains above this
	Synthetics	Securities that allow combinations of assets to be obtained with low transaction costs.

Source: Allen, F and Santomero, A.M , 1998

Standardized markets for financial futures and options started with the introduction of foreign currency futures in 1972 at the International Monetary Market (IMM) – which is part of the Chicago Mercantile Exchange. In the years after this many other types of futures were introduced. Financial futures were introduced in the UK in 1982 with the London International Financial Futures Exchange (LIFFE). The Chicago Board Options Exchange (CBOE) introduced the first standardized options in 1973 and it was immediately successful. By 1984 it had become the second largest securities market in the world with only the New York Stock Exchange being larger. The success of this led other US and foreign exchanges to introduce options exchanges. These included the American stock Exchange, The Philadelphia Stock Exchange, the European Options Exchange in Amsterdam and the London Stock Exchange.

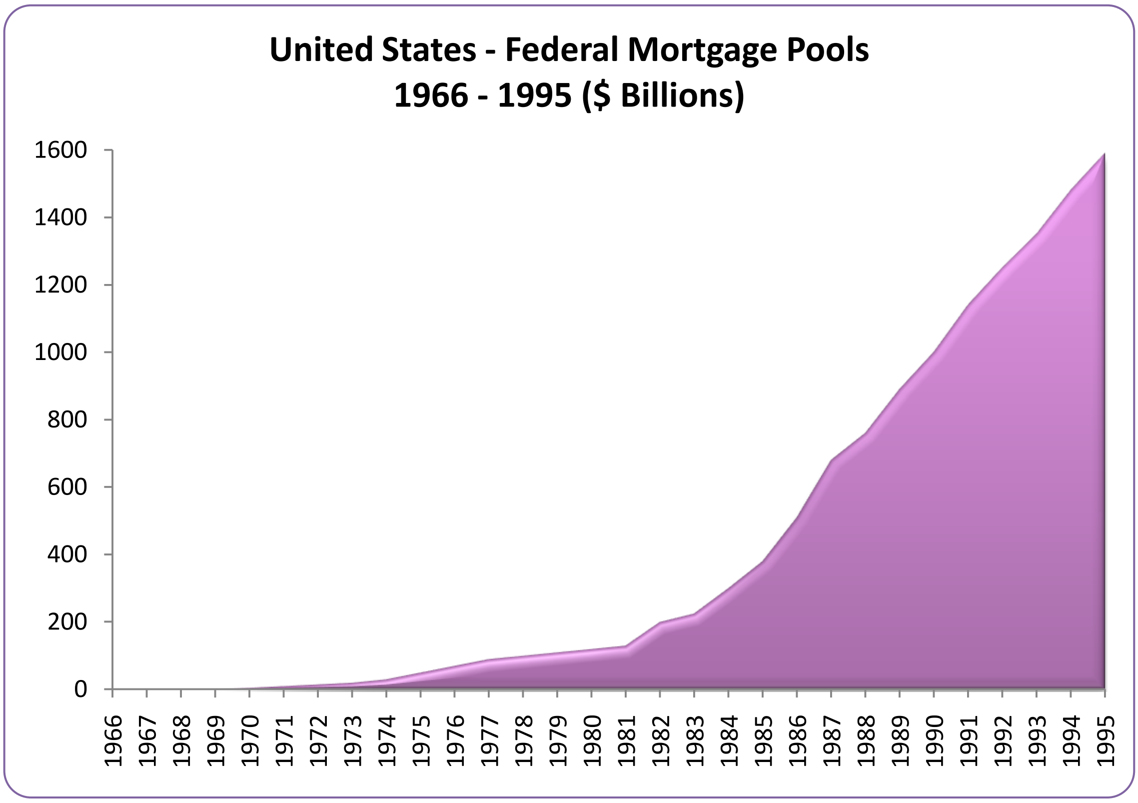
In addition to the development of exchange traded derivatives, there has also been a huge increase in the volume of OTC derivatives, particularly swaps. In the 1960's the UK used currency swaps (the first kind of swaps) as a way for them to evade exchange controls. These currency swaps involved swapping a stream of payments in one currency for a stream of payments in another currency. The basic idea behind currency swaps were then applied in other contexts, one of the most important being swapping fixed rate loans for adjustable rate loans (Allen and Santomero, 1998). Interestingly financial institutions are the primary users of the OTC markets as they account for 82% of its volume compared to the 18% for all other participants. The 18% includes the sum total of all non-financial firms, governments and individuals. This indicates that a huge amount of derivatives are traded by financial intermediaries. Financial institutions are buying and selling the unbundled state contingent cash flows associated with financial claims among themselves and on behalf of their clients. Therefore fundamentally financial institutions are actively trading risk to and for their clients for risk management purposes.

Another major innovation that has been successful is securitized loans. The primary forces behind securitization other than the lower cost of funding are: many issuers view it as a strategic/competitive issue and rating agencies have clarified the positive impact of securitization on unsecured corporate ratings. Securitization expands financial leverage and it adds diversification to a company's funding sources. The latter is of particular interest to finance companies as they grow and compete with banks and other nonbanks. Securitization helps to increase a finance company's liquidity and "match fund" the assets being securitized (Patrick, 1996). According to Patrick, in a securitization transaction, the company isolates the assets to be financed through a sale to an intermediate entity, such as a trust or other special purpose vehicle (SPV), which then issues securities, effectively separating the risk of the company as a whole from the risk of the assets themselves.

The market for securitized loans began with developments in the mortgage market. In the US, the market for mortgage-backed securities dates back to the 1950's but it was not until the 1970's that it became important in terms of the volume outstanding. The most important development was the introduction of "pass-through" securities by the Government National Mortgage Association (GNMA or Ginnie May) in 1970. These securities allowed shares in a pool of mortgages to be freely traded, without transfer of the title of the individual mortgages, which was necessary before. The bank that services the loan, i.e., collects the payments and deals with other administrative aspects, earns a fee for undertaking these tasks. Other types of securitized loans soon followed the original ones and included commercial mortgages, bank loans, automobile loans and credit card receivables.

There has been incredible growth over the past 30 years in mortgage pools, just one type of securitized loans, and this can be seen in Figure 5.

Figure 5: United States - Federal Mortgage Pools (1966 -1995)

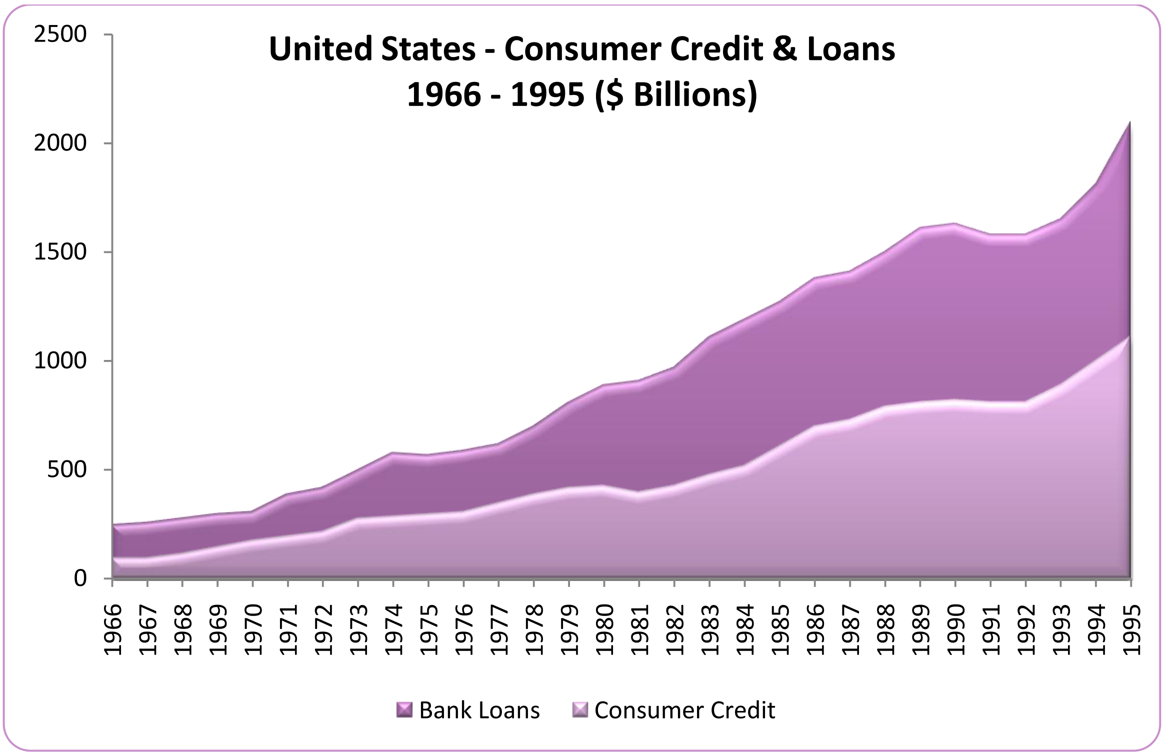


Source: Board of Governors of the Federal Reserve System – Flow of Funds Accounts

Figure 6 shows the corresponding growth in bank loans and consumer credit. Comparing the two figures we can see that securitized loans have overtaken both of these categories in terms of volume outstanding. The future of asset securitization with business loans is expected to evolve greatly from today's status, as market forces drive new developments in structure and acceptability. The simple fact that securitization has become so significant recently indicates that asymmetric information cannot be that important for the loans that have been securitized (Patrick, 1996).

The last type of financial innovation is securities directly issued by firms. Most of these have been fairly unimportant, in terms of volume issued, when compared to derivatives or securitized loans. The trend, however, is important when considering the changing nature of the information set available to market participants.

Figure 6: United States - Consumer Credit & Loans (1966 -1995)



Source: Board of Governors of the Federal Reserve System – Flow of Funds Accounts

All of the above information indicates that the traditional distinction between financial markets, where securities are issued by firms and directly owned by individuals, and intermediaries, where depositors and policyholders provided funds to banks and insurance companies who lent out these funds, has broken down.

2.7 Problems with Financial Institutions in Developing Countries

Financial institutions in Africa have many micro factors that relate to the way they operate. These need to be discussed as they have an influence on the banking industries in Nigeria, Kenya, Botswana and South Africa and may make it easier to understand why the banking industry operates the way it does in these countries.

One of the biggest problems that formal institutions in these countries face is the fact that they don't have risk analysis expertise or the familiarity with the often rural and poor potential clients. Also, formal lending is highly collateralized making it unsuitable for the poor. Informal organizations and NGO's have more experience with these markets, but more often than not they lack the resources of the formal lending institutions to sufficiently serve the poor (Rau, 2004).

When formal institutions dare to probe in low-end markets there is a lack of familiarity with potential clientele which often leads to inappropriate instruments. Research conducted informs us that such players sometimes cannot distinguish between liquidity and credit needs among the poor.

Micro-credit institutions tend to be supply driven and do not match the specific needs of the poor (Rosengard, 2001). There is also a greater access to savings vehicles than credit and therefore there is an imbalance. For all the African countries in this study the demand for deposit services outstrips demand for credit services by 7:1 (Rosengard, 2001). Another problem in these countries is that savings mobilised from the poor support large borrowers, regardless of the financial needs of the poor. The small, low-end market lacks depth and liquidity and therefore formal players find it difficult to exploit economies of scale in service delivery. There is also the added problem of lack of physical and technical infrastructure which intensifies the problem of delivery (Rau, 2004).

Other problems facing financial institutions in these African countries arise from the legal and regulatory environment in which they operate. There are often weak judiciaries that call into question the ability of the judicial system to enforce creditor rights in the event of default. More specifically in Kenya, Botswana and Nigeria the Central Bank leadership is politically determined and the institution itself lacks autonomy. Unfortunately the result is that the ability of the institution to supervise the financial system is coherently compromised (Rau, 2004). Over-regulation is also a problem that emerges, which prevents foreign players in local markets (Conning and Kevane, 2002). Adding to this, most financial regulations were designed for large players with sizable deposits, and prudential requirements that focus on protection of depositors restrict banks' ability to cater for the poor. Most of these countries still lack legal frameworks that recognise micro-financers and this affects non-traditional banks' ability to mobilise deposits legally. In South Africa, however, we have started to see changes (Rau, 2004). Legislation is often complex and difficult to control. Interest rate caps are prevalent but are often warped and contrary to popular belief, research has found that the poor are willing to pay market rates for productive uses of borrowed funds (Nelson, 1999). Another issue that problematic legislation leads to is fragmentation whereby no operational or strategic linkage among formal, semi-formal and informal micro-finance institutions exists. This causes failure to tap into synergies – where some are good at collecting deposits but lack local knowledge and information and vice versa (Rau, 2004).

Broadening access to finance is also hampered by social, religious and cultural factors in Africa. Illiteracy is high among rural poor people, especially women, and specialised officers are required to deal with this type of client. In a way employees of formal institutions are also illiterate when it comes down to dealing with these clients. In certain areas, women have cultural and religious restrictions that do not allow them to seek credit. The only way they can take up credit is with their fathers, brothers or husbands as co-signatories. Lastly in predominantly Muslim societies, fair market interest rates cannot be charged on religious and moral grounds (Rau, 2004). As the discussion above indicates, financial institutions in developing countries and specifically ones in Africa face a whole different array of challenges that those in developed countries such as the US and in Europe (in this study) do not need to worry about. These problems have a great effect on intermediation in the African countries in this study.

3. DATA AND METHODOLOGY

This section of the paper describes the data and methodology used in this study. The data dates back to as early as 1960, and ends off in 2009. This is a long time period, but as disintermediation has happened gradually over the years the earlier data is still relevant for results to be seen. The methodology used in the paper is a trend analysis with line graphs used as the key results.

3.1 Measuring the Size of the Banking Industry

Kaufman and Mote (1994) discuss, in their paper, "Is banking a declining industry? A historical perspective", the issues that arise when measuring the size of the banking industry. They found that there are many conceptual and practical problems in measuring the output of any industry. The measurement of the size of service industries, which the banks fall under, is particularly difficult due to the intangible nature of the output provided by them. This section of the paper draws largely from the measurement framework and findings of Kaufman and Mote. The most frequently used measures of the size of the banking industry are:

1. Assets
2. Employment; and
3. Revenues, earnings and value added.

3.1.1 Assets

Total assets, earning assets, and total deposits are the most frequently used measures or indexes of banking output. These measures are used in accordance with the general perception of banks as firms that use "inputs" such as deposits, labour, and capital to produce "outputs" primarily in the form of loans and investments. Therefore total assets, or deposits, or some variant of the two has been the most popular measure of the size or output of the banking industry.

Assets probably gave an adequate representation of the size of the banking industry in the nineteenth century; however, there is evidence to suggest that even for the first half of the twentieth century and certainly for more recent decades reported assets give a distorted and incomplete view of the output of the commercial banking industry. The asset figures used in analyses fail to include the assets that are managed by the banks but owned by others. These activities are referred to as "off-balance sheet".

Although there are conceptual short comings of assets as a measure of output – that it is a stock rather than a flow measure and the fact that different levels of output may be associated with the same value of assets of different kinds it is still one of the measures used in this paper.

3.1.2 Employment

A second way to measure the size of the banking industry is to measure the number of people it employs. In some instances employment may be the most relevant and useful measure in terms of the industry's impact on the economy of a particular country. However due to the fact that employment is a measure of input rather than output it may not be the most suitable measure of the size or competitiveness of the industry relative to similar industries. Another drawback of using employment is that it does not adjust for differences in productivity between sectors of the economy or changes in productivity over time. It is however still used in this paper.

3.1.3 Revenues, Earnings, and Value Added

The final way to measure the size of the banking industry is to use revenue and earnings data as they reflect the full range of services offered. They are also flow rather than stock measures of output.

3.2 The Concept of Intermediation and Securitization Ratios

The measurement of intermediation and securitization ratios is based on the concept of the economy as a set of sectors that interchange financial assets. Over a given period of time these accumulated financial flows convert into financial assets of one sector and a corresponding liability item of another sector. Due to the aggregation of financial flows over sectors, flows between entities that belong to the same sector are consolidated. This means that a bank's loans to another bank or a liability of one non-financial company in relation to another nonfinancial company are cancelled out. Intermediation ratios (IR) take a *sectoral/institutional* perspective and indicate what portion of total financial assets (liabilities) of nonfinancial sectors is channelled to (from) financial intermediaries as opposed to claims on (from) other nonfinancial sectors. On the other hand, securitization ratios (SR) take an *instrumental* perspective and answer the question: What portion of a given class of total financial claims (liabilities) of nonfinancial sectors is held (owed) in securitization form[2] (Schmidt, Hackethal and Tyrell, 1997).

3.3 The Data

The data used for this paper comes from a number of sources. Most of the data used for the European countries and the US comes from the OECD website (STD.finstat@oecd.org) and the sources that are used by this website are Central Banks and the National Statistical Institutes. Some of the results reproduced in this paper come from Schmidt et al. (1997) and from Kaufman and Mote

[2] Following standard notations, stocks, bonds, notes, money market instruments, investment certificates, and certificates of deposits are treated as securities.

(1994). A portion of the data for Nigeria comes from the paper by Beck et al. (2005). The rest of the data comes from the database by Beck, Demirgüç-Kunt and Levine (2000).

The categories of data used to assess comparative intermediation across regions, started off with the simplest way to measure the size of the banking industry by looking at the number of banks and the number of employees in the banking industry in each country over the years. The paper then considers some financial ratios that give an indication of the size and the turnover of the banking industry over the years. Bank assets, liquid liabilities and other financial institutions' assets are measured in terms of all financial assets and then also in terms of GDP. Return on Equity (ROE) and Return on Assets (ROA) are also measured in the banking industries of each country. A trend analysis is used in order to illustrate the changes in the banking industry over time.

3.4 Problems with the Data

The data collected for this study was the most substantial for the European countries and the US and was not so complete for the African countries. A lot of the data collected for the African countries had years of it missing and for some categories or variables there was no data at all. Another problem with the data from the African countries is that it is only a representation of what is happening in the formal banking industry as it does not consider the transactions within the informal financial sector which makes up a great deal of the volume in Nigeria especially (this was discussed in the literature review). This is unfortunate as the purpose of the study is to try and get an understanding of the banking industries in African countries. There are still, however, trends that can be seen for the purpose of drawing useful inferences.

The next section uses the data gathered to graph and tabulate the results of the study. By displaying the data in this way we can answer the questions posed at the beginning of the paper and come to a conclusion.

4. RESULTS

The focus of this paper is to take a look at what is happening in the banking industries in developed countries such as the US, France, Germany and the UK and compare it to what is happening in the developing countries in Africa such as Nigeria, South Africa, Kenya and Botswana. There is already a substantial amount of work conducted on determining if there is a trend towards disintermediation in the US and in countries in Europe and from these studies we have seen patterns emerge in the banking industry in the developed world. This paper uses the results of these existing studies along with some new variables to compare it to what is happening in the African countries.

4.1 Number of Institutions and Employees

The data that captured the number of employees in the banking industry and the number of banking institutions could only be found for the US, France and Germany while the number of banks over the years was found for Nigeria. This makes it difficult to come to conclusion about financial disintermediation in Africa's representative countries but it is still interesting to see how these variables have changed for the countries with data.

The results are all represented in their countries' tables as the number of institutions and number of employees differs greatly between the US and the other countries, especially Nigeria. What is important is not the total number of banks or employees but how they have changed over the years in each country. The table below shows how the number of banks in the US, France, Germany and Nigeria have changed over the years.

Table 3: Number of Institutions (1980 -2008)

Year	US	Germany	France	Nigeria
1980	37090	3006		
1981	35656	2992		
1982	34673	2982		
1983	33905	2963		
1984	34176	2953		
1985	34785	4370		40
1986	33588	4370		41
1987	32457	4248		50
1988	31076	4134	2050	66
1989	30179	4001	2021	81
1990	29267	4417	1981	107
1991	28236	4117	1823	119
1992	27028	3858	1701	119
1993	25958	3696	1635	119
1994	24903	3542	1618	116
1995	23976	3435	1453	115
1996	23151	3331	1404	115
1997	22392	3225	1288	115
1998	21675	3055	1242	89
1999	21079	2833	1168	
2000	20430	2575	1108	
2001	19812	2370	1006	
2002	19245	2215	951	
2003	18752	2076	895	
2004	18176	1995	383	
2005	17706	1934	373	
2006	17293	1891	363	
2007	16878	1856	349	
2008	16345	1816	338	

We can see from the above table that the number of banks had declined over the years in the developed countries. In Nigeria the number increased between 1985 and 1991, it remained about the same from 1992 to 1997 and from there it started to decrease. The period 1985 to 1990 has already been discussed in the literature review and it was when the government maintained a multiple exchange rate regime and this allowed many new players into the existing banking system. This explains the rapid increase in the number of banks. It can also be seen from the literature review that the number of banks decreased to about 25 by 2005 although this is not represented in the graph. This was due to all the mergers and the privatization that took place in the Nigerian banking industry.

The next table shows how the number of employees have changed in the banking industries of the US, France and Germany over the years.

Table 4: Number of Employees (1979 -2008)

Year	Germany	US	France
1979	487850		
1980	495700		
1981	502700		
1982	510600		
1983	520700		
1984	529600		
1985	542300		
1986	557400		
1987	565900		
1988	569300		445000
1989	576100		443000
1990	660550	2019341	440000
1991	686250	1944366	434000
1992	706650	1925716	425000
1993	716700	1936802	406000
1994	725150	1904146	409000
1995	724450	1888672	408000
1996	716000	1911574	404000
1997	716300	1959663	397000
1998	717350	2033901	398000
1999	722950	2078902	394000
2000	727100	2093973	399320
2001	723200	2158815	407496
2002	705500	2210997	410742
2003	678950	2242872	409600
2004	665750	2299508	376265
2005	659200	2361370	385618
2006	649300	2433386	411191
2007	649450	2450506	430031
2008	644400	2391916	428512

From the above table we can see that although there is a definite downward trend in the number of institutions, the number of employees in the banking industry follows no particular trend. If anything it has, in the case of Germany and the US increased slightly over the years but in France the final number of employees is less than the number the data series started out with.

4.2 Assets to Total Financial Assets

In this section we measure deposit money bank assets and other financial institutions assets to total financial assets. This can be used to determine how the assets of the bank have changed compared to total financial assets of the country and also how the assets of other financial institutions have changed over time. There was no data for these ratios for the UK, Germany, France and Botswana.

The graphs below compare the African data that were found to that of the US for deposit money bank assets to total financial assets.

Figure 7: Deposit Money Banks Assets to Total Financial Assets (1973 -2005) for Kenya, Nigeria and South Africa

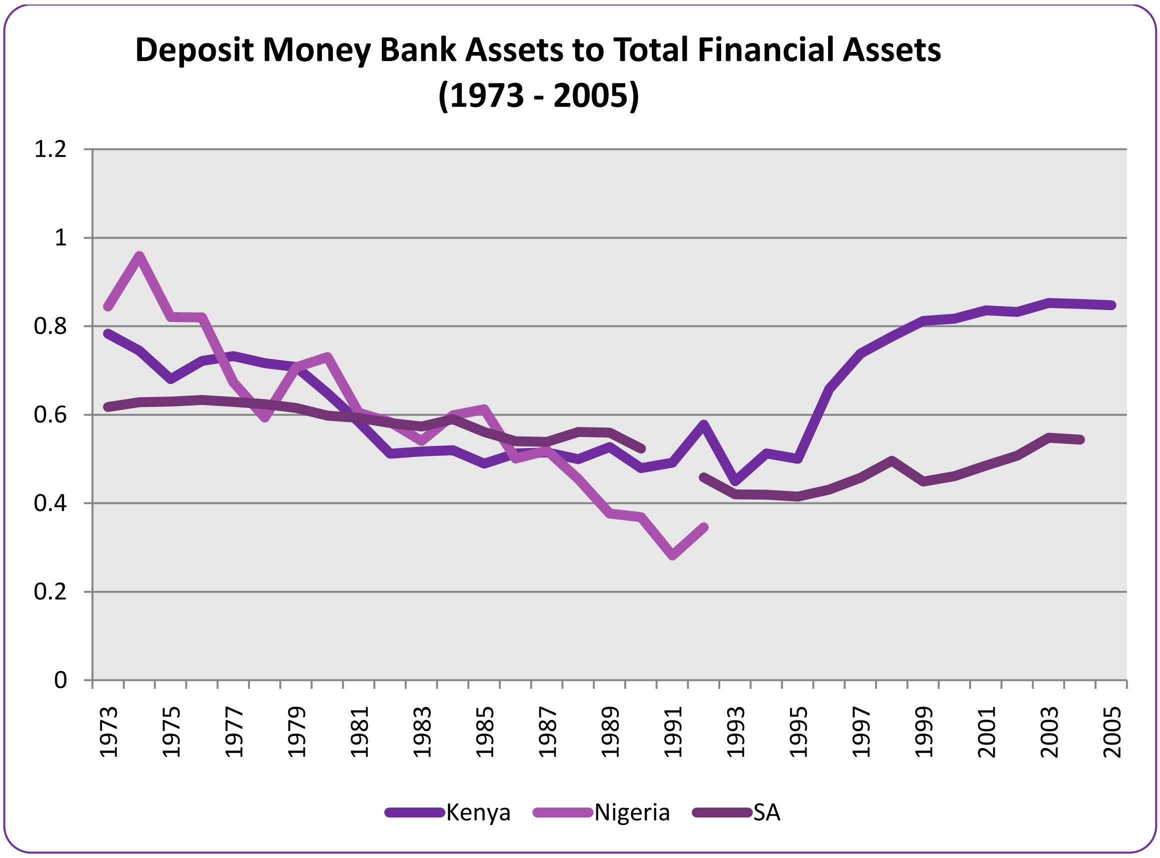
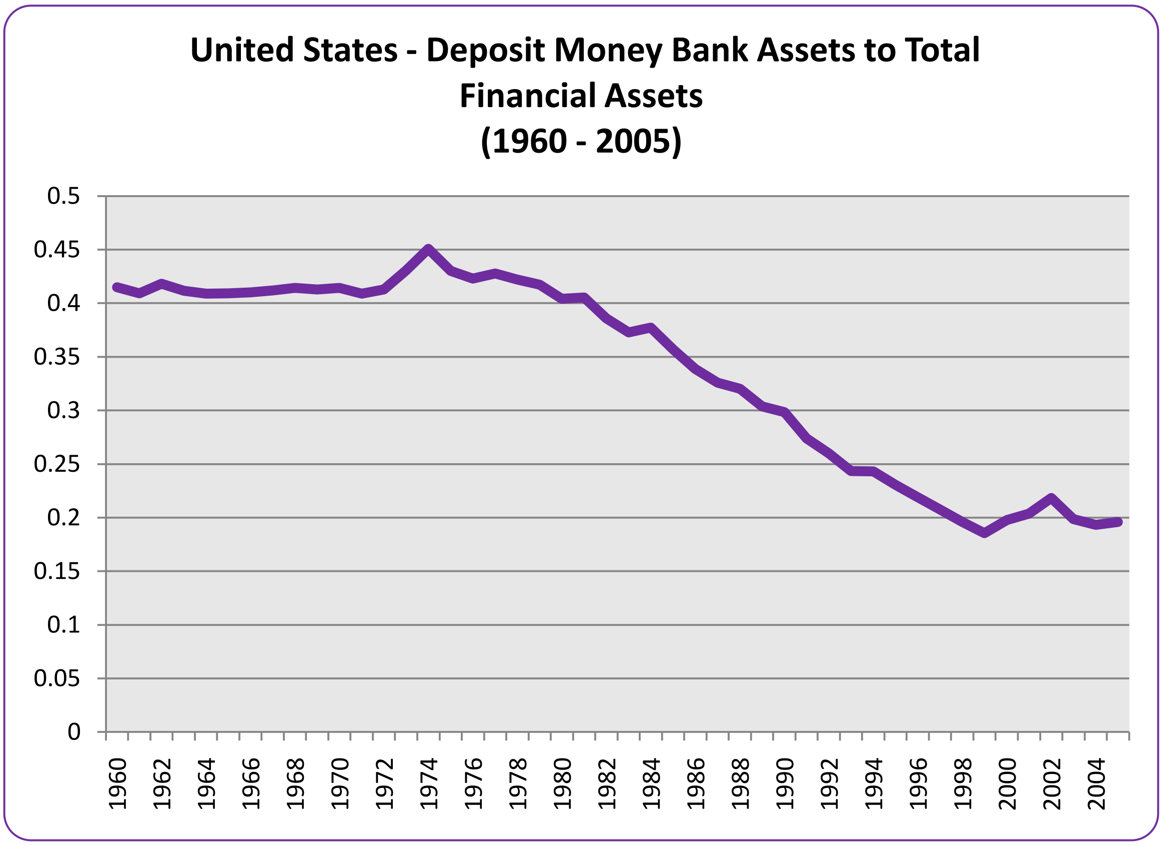


Figure 8: United States - Deposit Money Banks Assets to Total Financial Assets (1960 - 2005)



From the results of the above graphs it is clear that deposit money bank assets to total financial assets has decreased in the US over the years and this is the result we expect from all the previous studies that have been done. This trend is however not apparent in the graph for the African countries. We can see that between 1973 and 1990 the deposit money bank assets to total financial assets decreased for all three African countries. From 1991 onwards it started to increase again. In the years that the deposit money bank assets to total financial assets in the US has been decreasing, it has been increasing in the African countries.

The next set of graphs compare the developing countries in Africa to the US for other financial institutions assets to total financial assets.

Figure 9: Other Financial Institution Assets to Total Financial Assets (1973-2005) in Kenya, Nigeria and South Africa

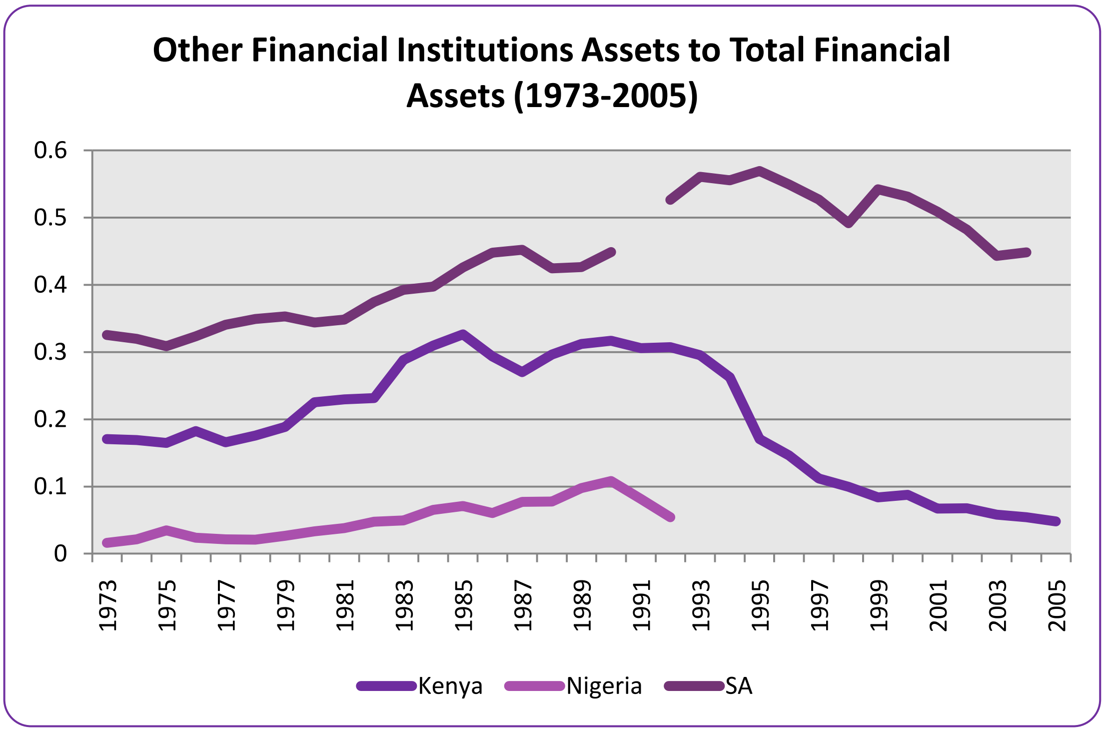
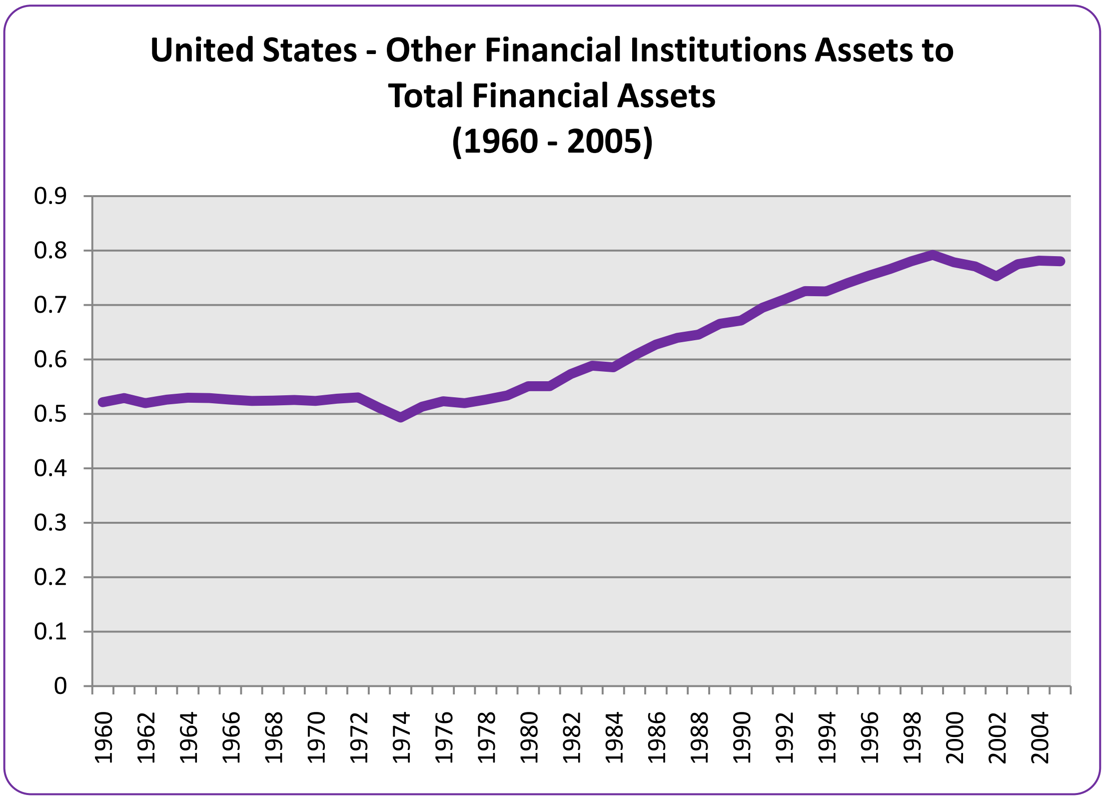


Figure 10: United States - Other Financial Institution Assets to Total Financial Assets (1960 -2005)



We can see from the above graphs that other financial institutions assets to total financial assets has increased from 1973 to about 1992 in the African countries and then after that it decreased. In the US it was consistent in the beginning years in the graph and after 1976 it started to increase. Again, we can observe that opposite trends are presenting themselves the US and in the African countries

We can see from both sets of graphs that in more recent years the opposite is happening within the banking industries of African countries compared with that of US. The deposit money bank assets to total financial assets is increasing in African countries in recent years whereas in the US it is decreasing and other financial institutions assets to total financial assets is decreasing in African countries whereas in the US it is increasing. It is clear that when the assets of the banks are decreasing the assets of other financial institutions are increasing and vice versa. This is the result we expect because if people are taking their money out of the banks they would be inclined to invest in Pension funds and Mutual funds which are the assets of the other financial institutions.

4.3 Assets to GDP

Another way to measure the performance and assets of the banking industry is comparing certain variables to the GDP of the country. This gives a good understanding of what is happening in the banking industry as it is compared to how well the country is performing in general. The variables measured are deposit money bank assets to GDP, other financial institution assets to GDP, liquid liabilities to GDP and bank deposits to GDP. The data that could not be found for this section is other financial institutions assets to GDP for Germany, France, the UK and Botswana.

The graphs below are comparing deposit money bank assets to GDP for the developed and the developing countries in this study.

Figure 11: Deposit Money Bank Assets to GDP (1960 -2005) for the US, Germany, France and the UK

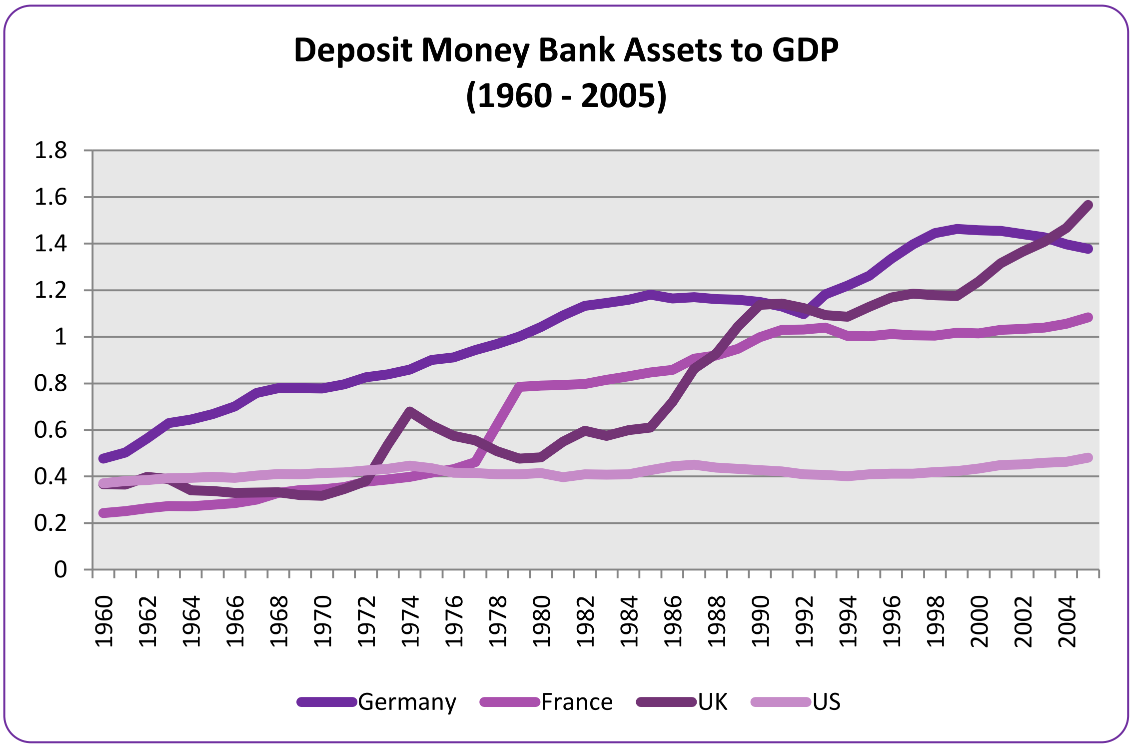
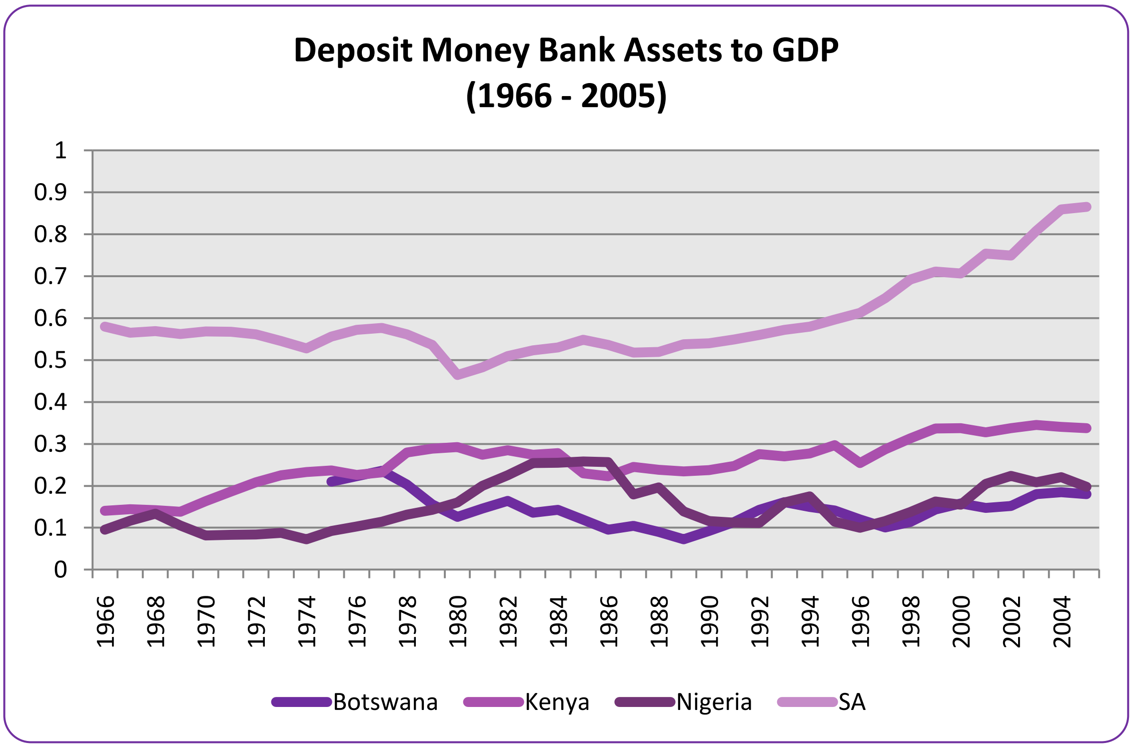


Figure 12: Deposit Money Bank Assets to GDP (1966 -2005) for Botswana, Kenya, Nigeria and SA



The above graphs demonstrate that deposit money bank assets to GDP has remained close to constant in the US but the trend in the other three European countries is that it has increased over the years. Deposit money bank assets have also increased substantially in South Africa, increased slightly over the years in Kenya, but have not really changed in Nigeria or Botswana.

The following graphs represent other financial institutions assets to GDP for the US and for the African countries.

Figure 13: United States – Other Financial Institutions Assets to GDP (1960 - 2005)

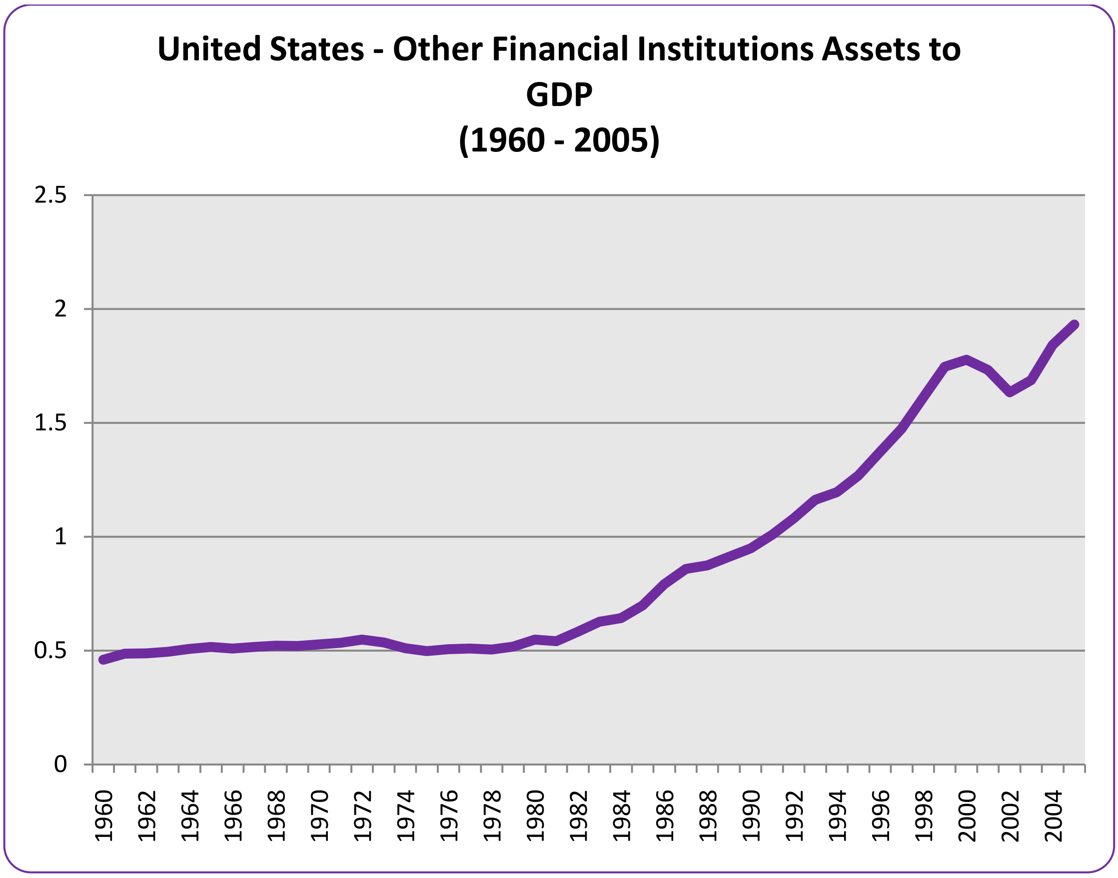
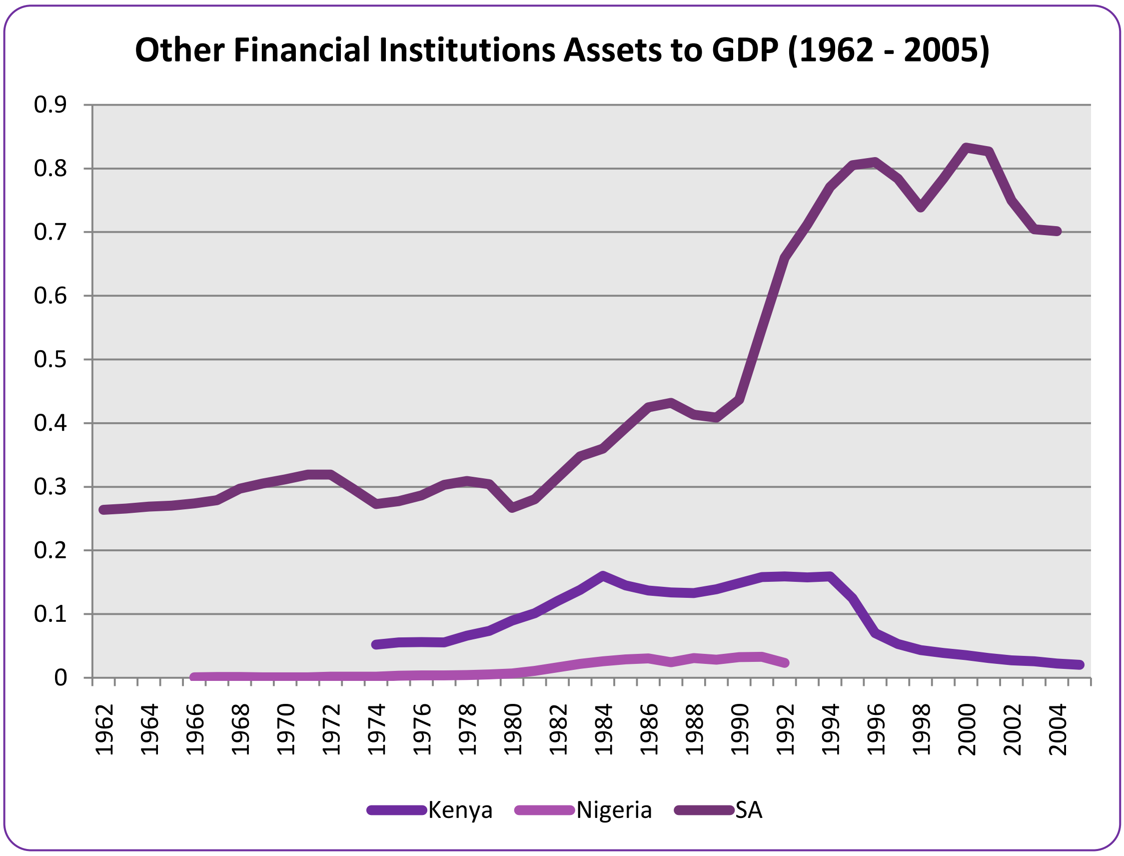


Figure 14: Other Financial Institutions Assets to GDP (1962 -2005) for Kenya, Nigeria and SA



The above graphs demonstrate that there has been a dramatic increase in other financial institutions assets to GDP since 1980 in the US. This is a result that is expected especially for the US. There has also been a substantial increase in other financial institutions assets to GDP in South Africa but the same is not true for the other African countries which have remained fairly constant and have even decreased over the years in Kenya.

The next pair of graphs compare liquid liabilities to GDP for the developed and developing countries in this study.

Figure 15: Liquid Liabilities to GDP (1960 -2005) for the US, Germany, France and the UK

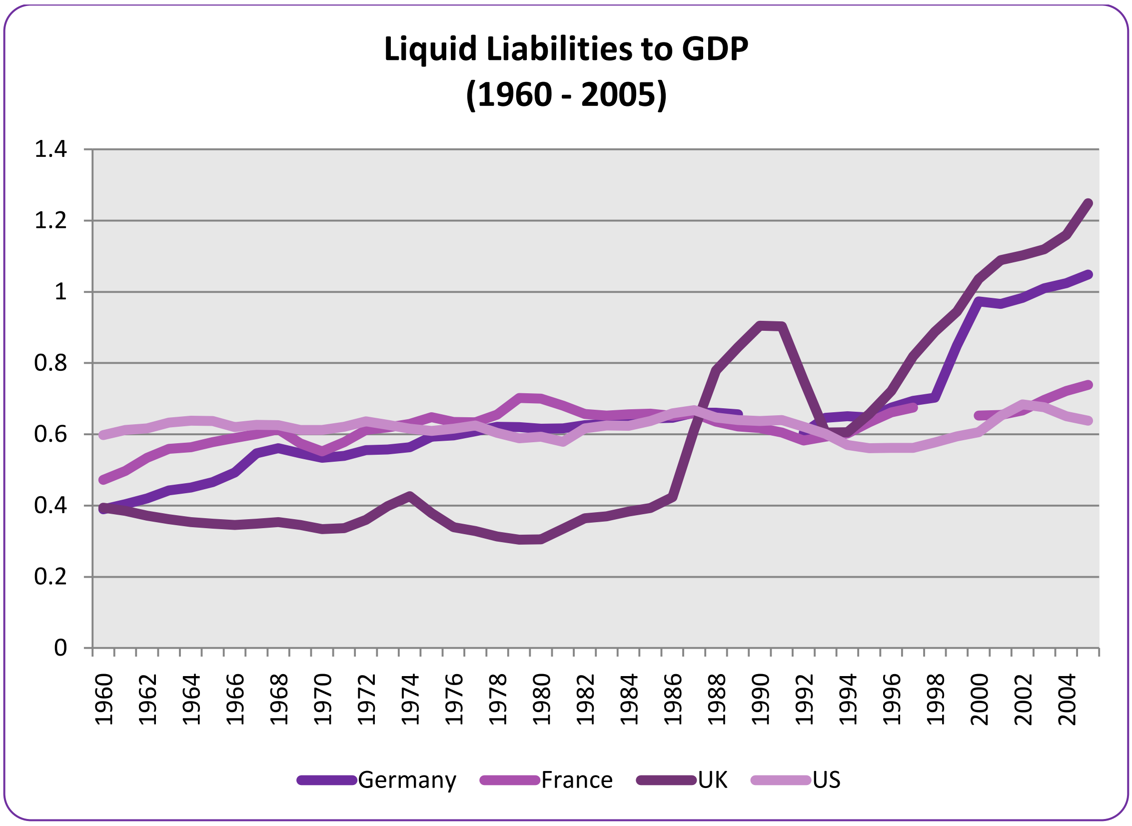
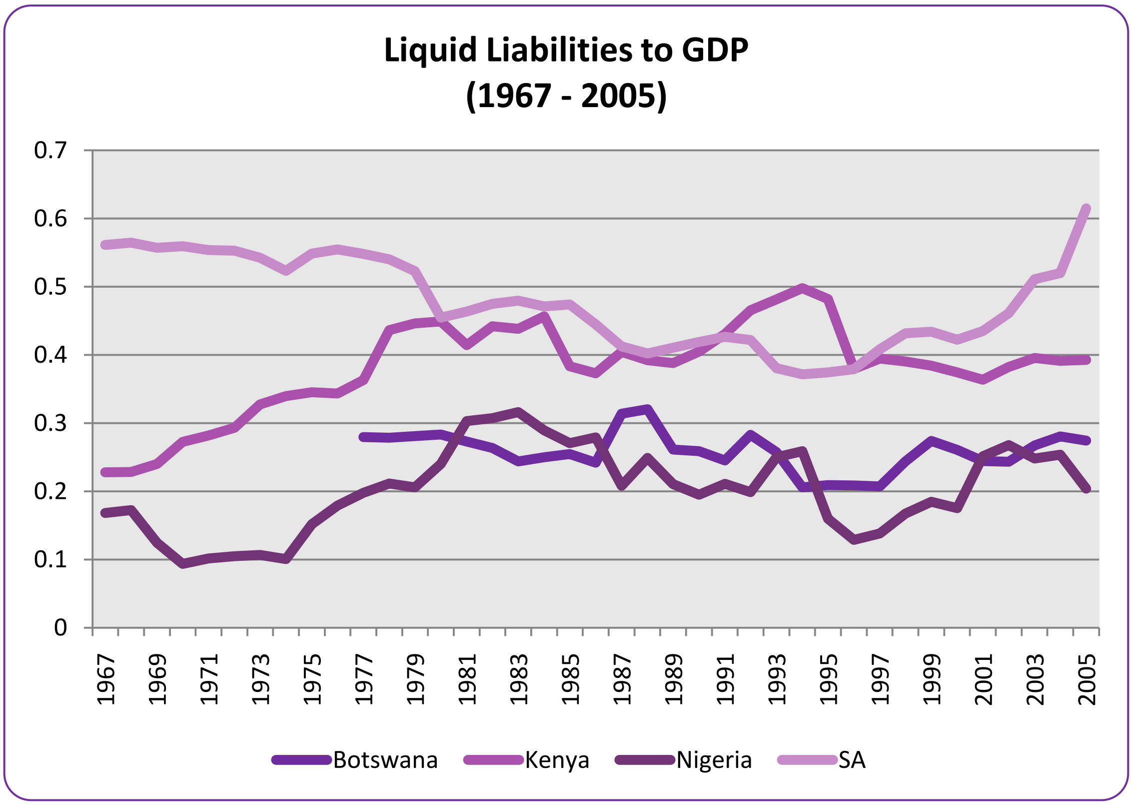


Figure 16: Liquid Liabilities to GDP (1960 -2005) for the US, Germany, France and the UK



In the UK and Germany liquid liabilities to GDP have increased by a large amount over the period 1994 to 2005, but in the US and France they have remained fairly constant. In South Africa they have also been increasing since 1995, but in the other three African countries there is not much of a trend. There is overall, not too much that can be said about the trend of liquid liabilities in any of the countries, developed or developing.

The next set of graphs show bank deposits to GDP for the developed and developing counties.

Figure 17: Bank Deposits to GDP (1960 -2005) for the US, Germany, France and the UK

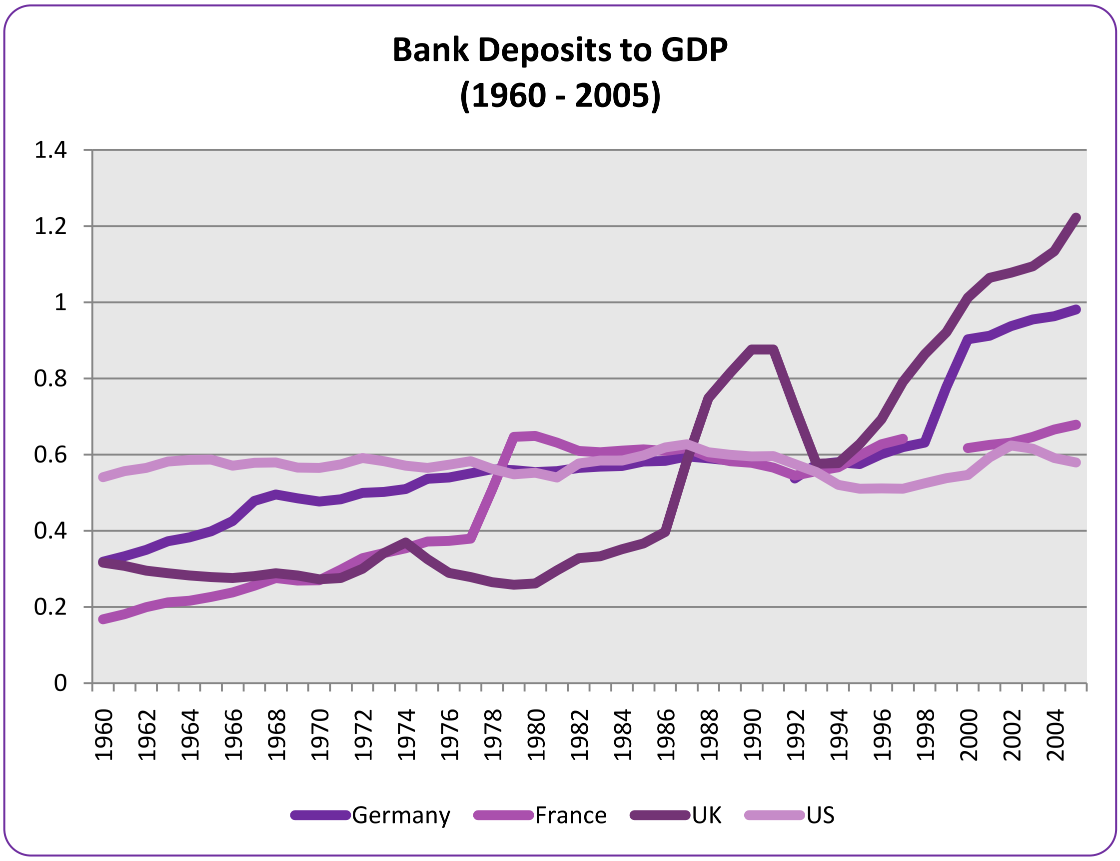
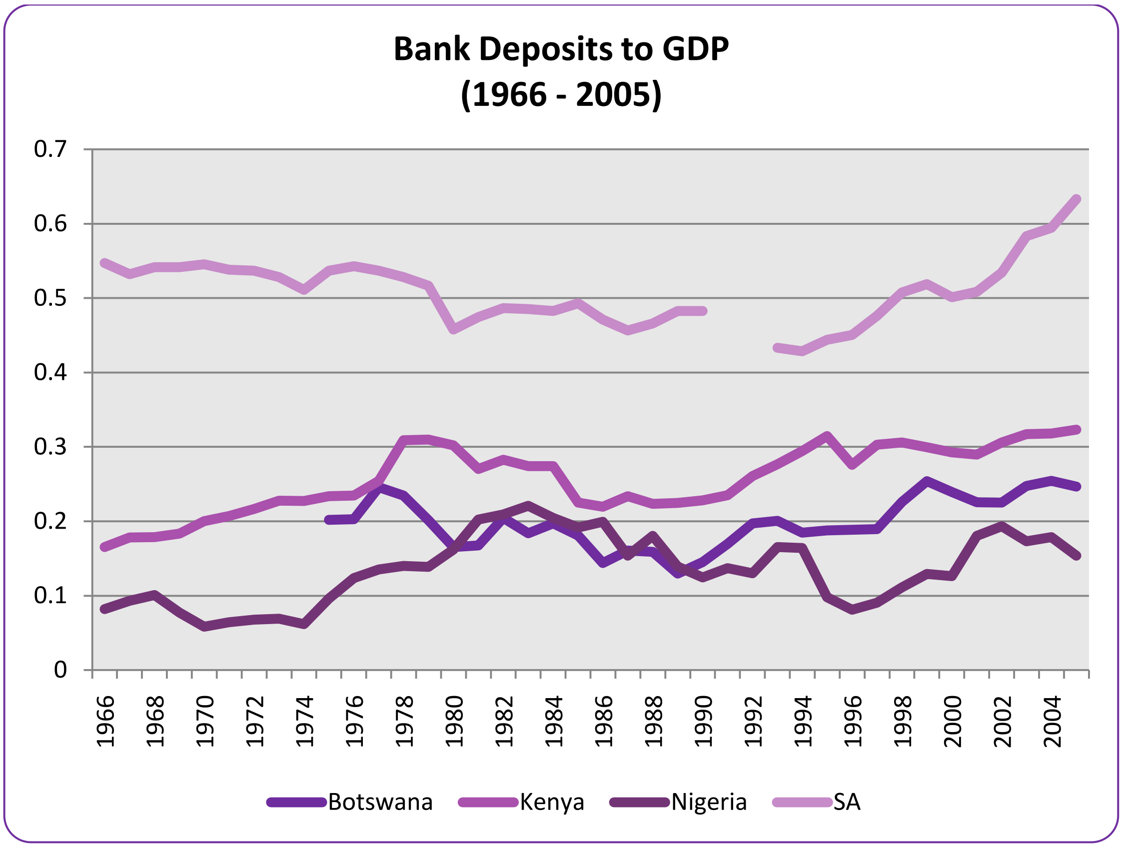


Figure 18: Bank Deposits to GDP (1966 -2005) for Botswana, Kenya, Nigeria and SA



In the US, bank deposits to GDP have remained constant over the years whereas in the UK, France and Germany they have all increased. In South Africa after 1994 there was quite a large increase in bank deposits to GDP and in the other African countries there has been an overall increase over the years but it has only been a slight one.

4.4 Performance Measures

Return on equity and return on assets are common performance measures. Return on equity is net income divided by total equity and return on assets is net income divided by total assets. These two ratios are used to measure the performance of the banks in the different countries over the years. The first set of graphs present the return on equity.

Figure 19: Average Return on Equity (1988 -2008) for Germany, France, the UK and the US

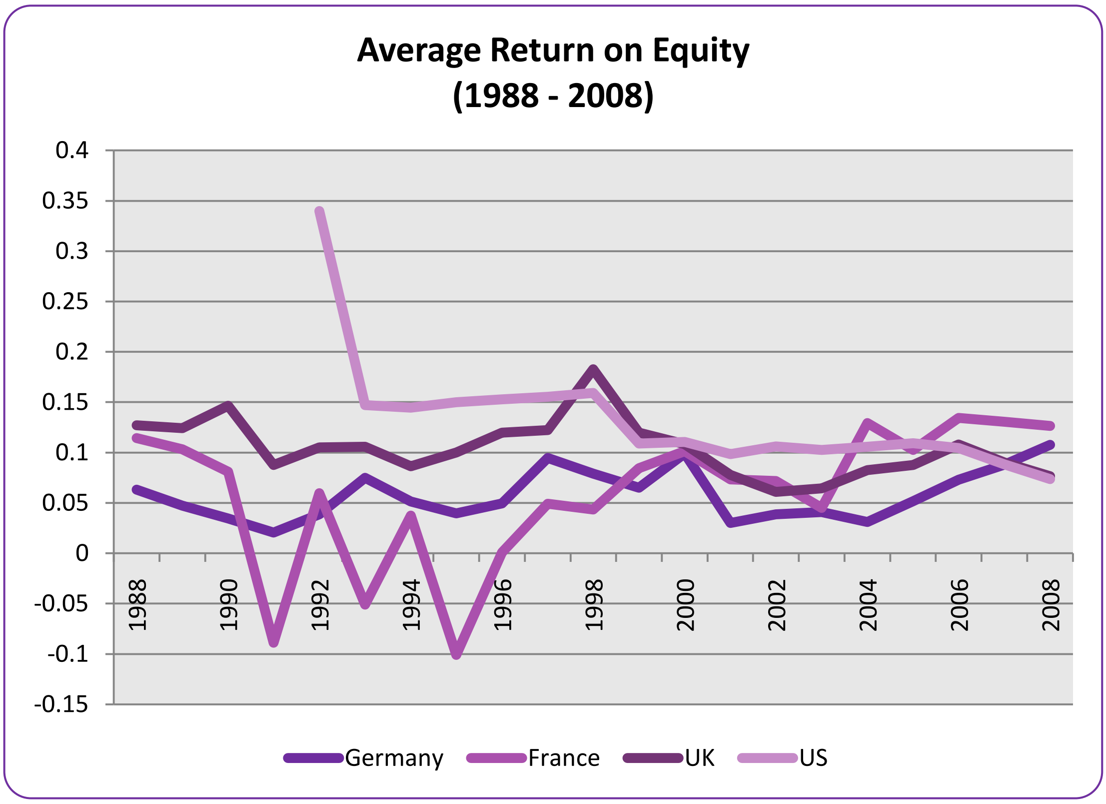
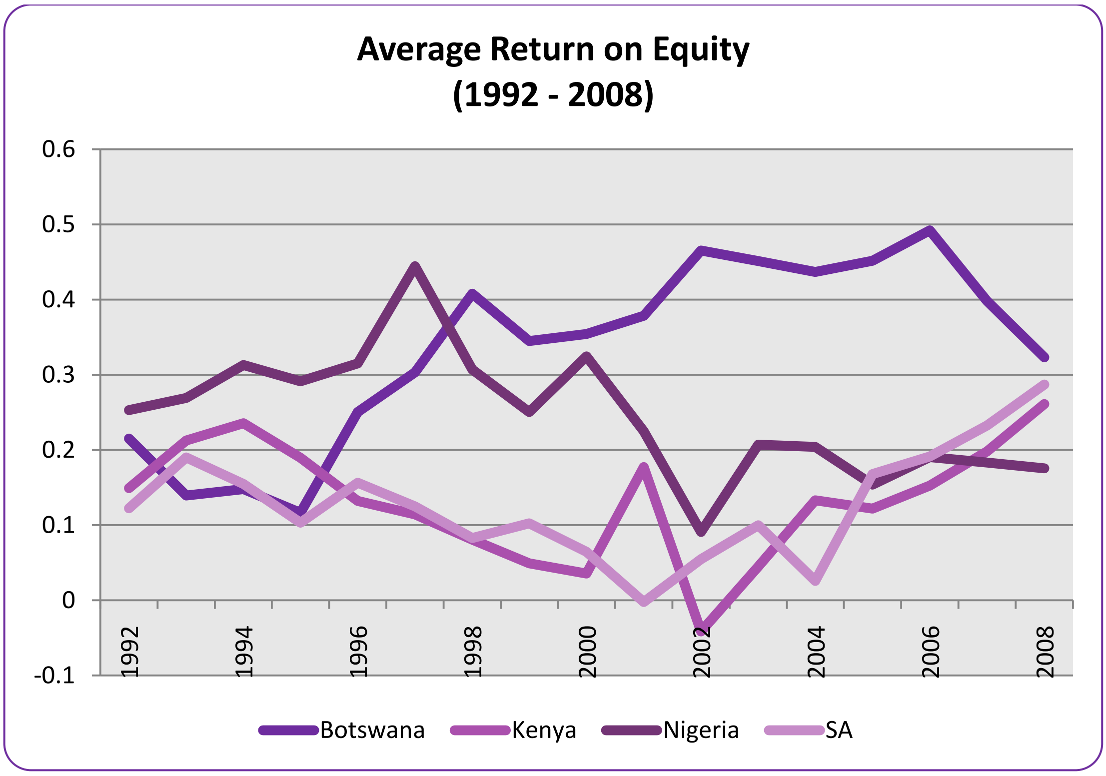


Figure 20: Average Return on Equity (1992 -2008) for Botswana, Kenya, Nigeria and SA



Other than the return on equity dramatically decreasing in the US between 1992 and 1993 there is no particular trend in any of the countries in Europe or in the US after that. Return on equity increased in South Africa quite dramatically since 2004 the other African countries do not show any trends. The last set of graphs show the return on assets.

Figure 21: Average Return on Assets (1988 -2008) for Germany, France, the UK and the US

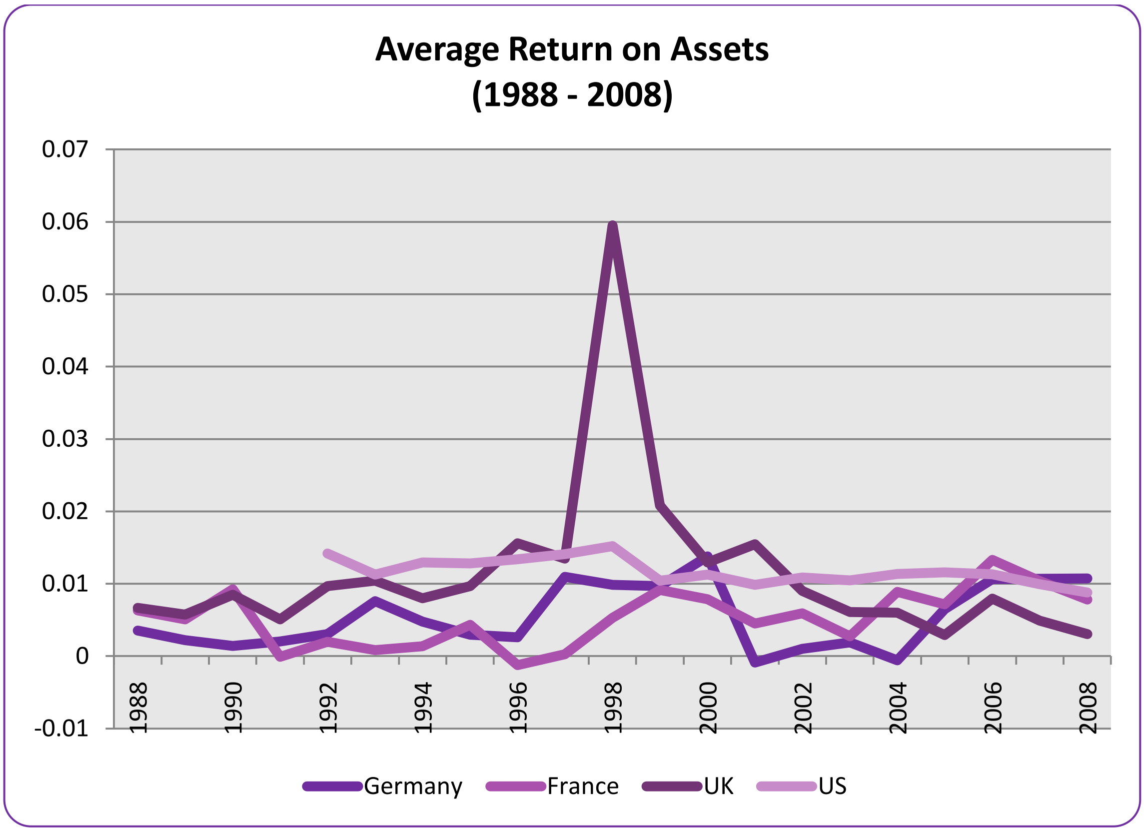
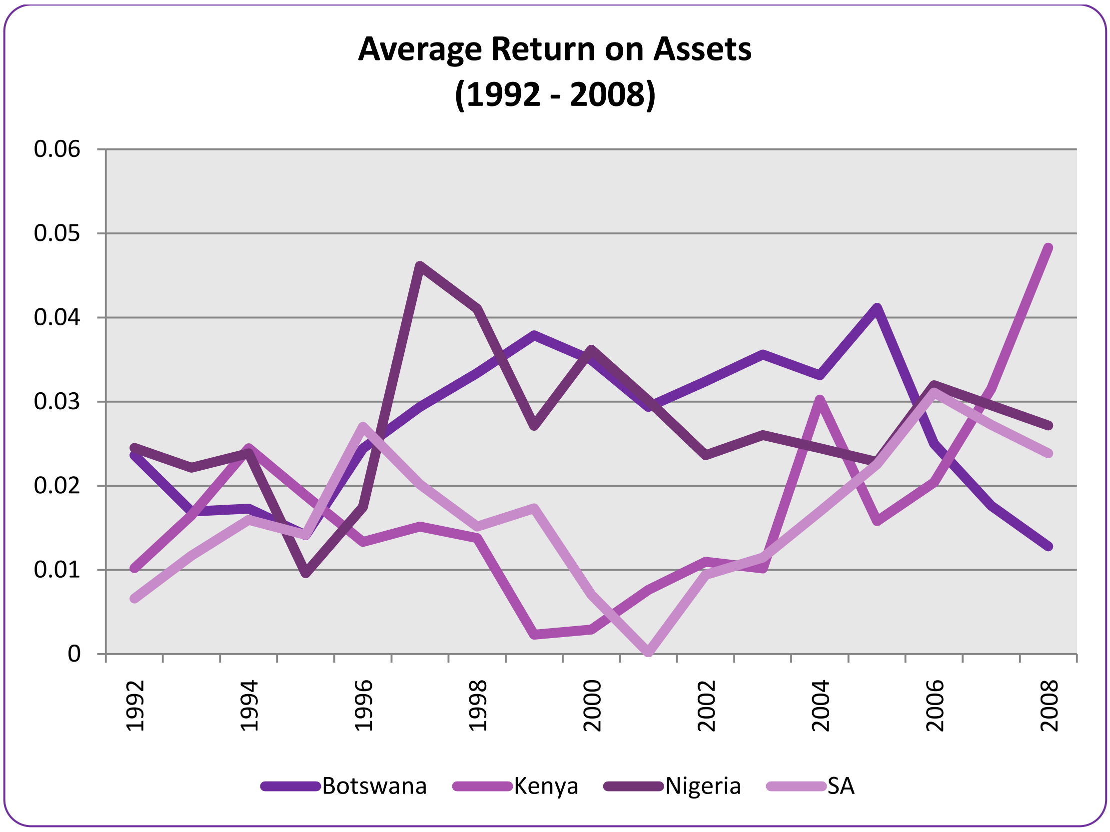


Figure 22: Average Return on Assets (1992 -2008) for Botswana, Kenya, Nigeria and SA



The UK had a massive increase and decrease between 1997 and 1999 of return on assets but in the other developed countries this variable remained mostly constant over time. Kenya had a large increase in return on assets after 2005 and so did Nigeria between 1995 and 1997. Return on assets also increased in South Africa between 2001 and 2006.

5. DISCUSSION AND CONCLUSION

The main purpose of this study was to determine if there is a growing trend towards banking industry disintermediation. The paper has attempted to find evidence that the banking sectors of developed and developing countries, namely the US, France, Germany, the UK, Botswana, Kenya, Nigeria and South Africa respectively, have undergone a transformation that has caused an overall decline in the role of banks. The results of the study do not completely support the theory of financial disintermediation but highlight different conclusions about the banking industries of these economies.

The first question posed was “What financial revolutions are happening in the banking and financial industries in the developed countries and in the emerging markets of the world?” This question was mostly answered in the literature review and the most significant finding was that due to there being restrictive regulations imposed primarily in the earlier years, banks have not done as well as they should have. Banks have not grown as rapidly as they might have if they had not been constrained from providing new products that other financial institutions were already providing. It was also seen in the literature review the problems banking industries in Africa faced particularly in Nigeria. The banks in Africa have their own set of problems to deal with and have also not advanced as much as those in the US, France, Germany and the UK. The biggest issues that banking industries in Africa face is that generally state owned financial institutions are inefficient. This is an issue that needs to be addressed in order for banks to perform to their potential.

The next question to be addressed was “Is there a general trend toward disintermediation, with banks losing importance to the markets in developed countries namely the US, France, Germany and the UK and in developing countries such as South Africa, Nigeria, Botswana and Kenya?” We begin answering this with reference to the developed countries in the study, where much work has already been done particularly in the US to determine if in fact there is financial disintermediation with the role of banks declining. There is a perception that the banking industry has been declining relative to other financial institutions in the US. From the data collected for the US and graphs plotted it can be seen that there has been a substantial decrease in the number of banks in the US and also in deposit money bank assets to total financial assets while there has been an increase in other financial institutions’ assets to total financial assets. This demonstrates that banks in the US may be losing importance to other financial institutions. However, when comparing deposit money bank assets to GDP the trend has been that this ratio has remained constant over the years while other financial institutions assets to GDP has increased over time. Bank deposits to GDP has also remained constant in the US. The performance measures indicate that banks are still performing the same way they were 20 years ago in the US and so this has not changed but their intermediation has deepened

When we consider the European countries in the study, none of the data supports the statement that there is a general trend toward disintermediation. From the paper by Schmidt et al. (1997) it can be seen that the trend toward disintermediation in Germany is almost non-existent, there is only a slight trend in the UK and only in France is the trend quite pronounced.

In the African countries the trend is almost the opposite of a disintermediation trend which is not surprising considering these are still developing countries. Deposit money bank assets to total financial assets were increasing in recent years while other financial institutions assets to total financial assets decreased. Deposit money bank assets to GDP increased in all the African countries over time but most especially in South Africa. The performance measures were very inconsistent and this is also backed up by these countries still being in the developing stage and thus not running their banks in an efficient manner.

Finally the last question was “Is there a pattern of structural change within the financial systems of these countries?” This is the most significant question as there is not substantial evidence to back up the theory of financial disintermediation but rather evidence that substantiates the changing role of banks. There has not been a reduction in intermediation but rather a change in the activities that the banks perform. It needs to be noted that the evidence for any trends in disintermediation has been from data of commercial banks share of reported assets, such as commercial loans. These results do not consider such factors as employment, revenues and value added which take into consideration the changing roles of banks. The newer activities that the banks perform are not reflected on the balance sheets and are therefore not taken into account when measuring traditional intermediation. The largest and most important change in intermediaries’ activities is the growth of the risk management activities undertaken by financial intermediaries (particularly banks).

There is a small trend of disintermediation in the US and France, even less of a trend in the UK, and no trend of disintermediation in Germany, Botswana, Kenya, Nigeria and South Africa. The roles of banks and their activities, in all of these countries are, however, changing.

The final point to be made is that this study did not consider the most recent financial disaster, the 2008 global debt crisis and crash of the markets. This event could significantly have altered the role of banks and intermediation as a whole and should be considered for further studies to see its impact on financial intermediation/disintermediation.

6. REFERENCES

1. Allen, D. S. and Ndikumana, Leonce. (1998) Financial Intermediation and Economic Growth in Southern Africa, *Working Paper Series.*

2. Allen, F. and Santomero, A. M. (1998) The theory of financial intermediation, *Journal of Banking and Finance,* 21, 1461-1485.

3. Allen, F. and Santomero, A.M. (2001) What do financial intermediaries do?, *Journal of Banking and Finance,* 25, 271-294.

4. Atindéhou, R. B., Gueyie, JP. and Amenounve, E. K. (2005) Financial intermediation and economic growth: evidence from Western Africa, *Applied Financial Econometrics,* 15, 777-790.

5. Bain, A.D. *The Economics of the Financial System*. (Blackwell, 1992) second edition [ISBN: 0-631-18197-0] Chapters 3 and 4.

6. Barth, J.R, Gerard, C. Jr and Levine, R. (2001) The regulation and supervision of banks around the world, *A New Database.*

7. Beck,T., Demirgüç-Kunt, A., and Levine,R. (2000), A New Database on Financial Development and Structure, *World Bank Economic Review* 14, 597-605.

8. Beck, T., Cull, R and Jerome, A. (2005)Bank Privatization and Performance: Empirical Evidence from Nigeria, *The World Bank.*

9. Bencivenga, V.R and Smith, B.D. (1991) Financial intermediation and endogenous growth, *Review of Economic Studies,* 58, 195-209

10. Boydt, J.H. and Gertler, M. (1994) Are Banks Dead? Or Are the Reports Greatly Exaggerated?, *Federal Reserve Bank of Minneapolis Quarterly Review,* Vol 18, no 3.

11. Buckle, M. and Thompson, J.L, *The UK Financial System*. (Manchester University Press, 1998) third edition [ISBN: 0-7190-5412-5] Chapter 2.

12. Chandarvakar, A.G. (1988) The role of informal credit markets in support of micro-business in developing countries, *World Bank,* Washington, D.C.

13. The Complete Real Estate Encyclopaedia by D. L. Evans, JD & O. W. Evans, JD. Copyright © 2007 by The McGraw-Hill Companies, Inc.

14. Conning, J and Kevane, M. (2002) Why Isn't There More Financial Intermediation in Developing Countries? Discussion Paper, *Helsinki: World Institute for Development Economics Research.*

15. Daniels, R.C. (2004) Financial intermediation, regulation and the formal microcredit sector in South Africa, *Development Southern Africa,* Vol 21, No 5.

16. Davis, E. P and Mayer, C.P (1991*),* Corporate finance in the euromarkets and the economics of intermediation*, CEPR Discussion Paper,* No. 570

17. Davis, E.P. (2006) Lecture 2: The nature of financial intermediation, *Money and Banking Part 1: Economics of Banking.*

18. Davis, E.P (2009), Financial Stability in the United Kingdom: Banking on Prudence, *OECD Economics Department Working Papers*, No. 717, OECD publishing.

19. Demirgüç-Kunt, A. and Levine, R. (1996) Stock Market Development and Financial Intermediaries: Stylized Facts, *World Bank Economic Review, 10(2)*: 191-321.

20. De Serres, A., Kobayakawa, S., Sløk, T. and Vartia, L. (2006), Regulation of Financial Systems and Economic Growth, OECD *Economics Department Working Papers*, No. 506.

21. Diamond, D. and P. Dybvig (1983), Bank Runs, Deposit Insurance and Liquidity, *Journal of Political Economy*, No. 91.

22. Elumilade, D. O. (2010) Mergers and Acquisitions and Efficiency of Financial Intermediation in Nigeria Banks: An Empirical Analysis, *International Journal of Business and Management*, Vol 5, No 5.

23. Farlex Financial Dictionary. © 2009 Farlex, Inc. All Rights Reserved

24. Fischer, S. (1991) Macroeconomics, development, and growth, *NBER Macroeconomics Annual*, 6: 329-364.

25. Fischer, S. (1993) The role of macroeconomic factors in growth, *Journal of Monetary Economics, 32*: 485-512.

26. Grahl, J., Teague, P. (2005)Problems of Financial Integration in the EU, *Journal of European Public Policy*, Vol. 12 Issue 6, p1005-1021.

27. Greenwood, J and Jovanovic, B. (1990) Financial development, growth, and the distribution of income, *Journal of Political Economy,* 98, 1076-107

28. Gurley, J.G and Shaw, E.S. (1960) Money in a theory of finance, Washington, D.C. : The Brookings Institution.

29. Hawkins, P (2004) Banks and small business, *The South African Journal of Economics*, 70 (3), 519-542

30. Heffernan, S. *Modern Banking in Theory and Practice*. (Wiley, 1996) [ISBN 0-471-96209-0] Chapter 1.

31. IMF (2003), United Kingdom, Financial Sector Stability Assessment, *Country Report 03/46*, International Monetary Fund, Washington DC.

32. Kaufman, G. G and Mote, L R (1994) Is banking a declining industry? A historical perspective, *Economic Perspectives,* 18 (3), 2-21

33. King, R.G and Levine R. (1993a) Finance and Growth: Schumpeter Might Be Right, *Quartely Journal of Economics,* 108(3), 717-38

34. King, R.G and Levine R. (1993b) Finance, entrepreneurship and growth: theory and evidence, *Journal of Monetary Economics,* 32, 513-42.

35. Lamb, P. E. (1996) Financial Disintermediation and Asset Securitization, *Secured Lender*, Vol. 52 Issue 6, p16.

36. Levine, R. (1991) Stock markets, growth, and tax policy, *Journal of Finance,* 46, 1445-65

37. Levine, R (2002) Bank-based or market-based financial systems: Which is better?, *The Journal of Financial Intermediation*, 11 398-428

38. Lewis, P. and Stein, H. (2002) The political economy of financial liberalization in Nigeria, in: Stein, H., Ajakaiye, O., Lewis, P. (Eds.): Deregulation and Banking Crisis in Nigeria, Palgrave, New York.

39. Lynn Reaser, A. (2006) Banking: mature not declining, *The Economy,* ABA Banking Journal.

40. McKinnon, R.I. (1973) *Money and Capital in Economic Development*, Brookings Institution, Washington, DC.

41. McKinnon, R. (1991) *The Order of Economic Liberalization: Financial Control in the Transition to Market Economy*, Baltimore: Johns Hopkins University Press.

42. Mehran, H., P. Ugolini, J. P. Briffaux, G. Iden, T. Lybek, S. Swaray, and P. Hayward (1998) Financial Sector Development in Sub-Saharan African Countries, *International Monetary Fund Occasional Paper,* 169, International Monetary Fund, Washington DC.

43. Merton, R.C. (1989) On the application of the continuous-time theory of finance to financial intermediation and insurance, *Geneva Papers on Risk and Insurance Theory,* 14, 225-261

44. Merton, R.C. and Bodie, Z. (1995) A conceptual framework for analyzing the financial environment, *The Global Financial System – A Functional Perspective,* Harvard Business School Press.

45. Mishkin, F.S. and Eakins, S.G, *Financial Markets and Institutions*. (Addison–Wesley, 1998) second edition [ISBN 0-321-01465-0] Chapter 12.

46. Nelson, E.R. (1999) Financial Intermediation for the Poor: Survey of the State of the Art. *African Economic Policy Discussion Paper 10,* Washington DC: USAID

47. OECD (2007), Ensuring Regulatory Effectiveness and Efficiency, OECD, Paris.

48. OECD (2009), *OECD Economic Surveys: Euro Area*, OECD, Paris.

49. Ojah, K (2005) Boys' club leaves out SMEs: Correcting the trend in financial intermediation could provide opportunities for South Africa. *The Mail and Guardian,* 21 (33), 5 (business section)

50. Patrick, H. (1966) Financial development and economic growth in underdeveloped countries, *Economic Development and Cultural Change,* 14, 174-89

51. Pfouts, R. W. (1994) Five Recent Economic Revolutions, *Atlantic Economic Journal*, Vol. 22 Issue 1, p22.

52. Pill, H. and Pradhan, M. (1997) Financial Liberalisation in Africa and Asia, *Finance and Development,* Washington DC: IMF and World Bank.

53. Piloff, S.J. (1996) Performance changes and shareholder wealth creation associated with mergers of publicly traded institutions. *Journal of Money, Banking and Finance,* 28, 294-310

54. Rau, N. (2004) Financial Intermediation and Access to Finance in African Countries South of the Sahara, *African Development and Poverty Reduction: The Macro-Micro Linkage,* Forum Paper

55. Robinson, J. (1952) The generalization of the general theory, in *The Rate of Interest and Other Essays,* Macmillan, London

56. Rosengard, J.K. (2001) Kinks in the Links: Financial Intermediation for Africa's Poor. Washington DC : USAID

57. Schenk, H. (2000) *Policy Implications of Purely Straegic Mergers,* in Elsner & Groenewegen, eds, 199-233.

58. Schmidt, R H., Hackethal, A., Tyrell, M. (1997) Disintermediation and the Role of Banks in Europe: An International Comparison, *Journal of Financial Intermediation* **8**, 36-67.

59. Schumpeter, J. (1911) A Theory of Economic Development, *Harvard University Press,* Cambridge, MA

60. Shaw, E.S (1973) *Financial Deepening in Economic Development,* Oxford University Press, New York.

61. Ritter, L. S., Silber, W. L., Udell, G. F. Principles of Money, Banking and Financial Markets, 11^{th} Edition.

62. Vittas, D. (1998) The Role of Non-Bank Financial Intermediaries (with Particular Reference to Egypt), *Policy Research Working Paper*

63. Wall Street Words: An A to Z Guide to Investment Terms for Today's Investor by David L. Scott. Copyright © 2003 by Houghton Mifflin Company. Published by Houghton Mifflin Company. All rights reserved.